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Some Clinical Notes.*

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I must crave your indulgence this afternoon, because I rather fear that the notes I propose to give you are somewhat disjointed, and yet I think that by addressing you in this manner more of the points with which we meet in general practice may be brought out and discussed than would be the case were I to give you a set paper.

The conditions to which I propose to refer are some of those with which we meet in practice practically every day and which give us a considerable amount of trouble, although we are so familiar with them.

INTERDIGITAL CYSTS.

I will start by referring to the condition so frequently met with in dogs' feet and variously known as interdigital abscesses, interdigital cysts or pedal cysts. It is very difficult, in the first place, to give a name to them that is free from objection: if you call them abscesses you are assuming at the outset that pyogenic organisms are incriminated and that they are true abscesses; if you regard them as cysts you are up against another difficulty, because they do not conform to any of the conditions that are usually regarded as a cyst.

I have views of my own as to their origin and nature, but they are open to debate and discussion, and I will offer opinions with regard to them. We meet with these lesions very often and we all do so with a certain amount of misgiving: we do not like them, as we know we may not give satisfaction to the owner on account of the frequency with which they recur. Though the condition is not classed amongst those which are infective, yet the occurrence of these lesions on each foot of a dog and in a series of dogs kept under similar conditions, always points to the possibility of infection.

My view of their origin is that they commence as the result of some trouble on the solar aspect of the foot, between the pads. That trouble is an inflammatory one to begin with, sometimes due to a foreign body such as grass awns which would gradually work through the skin and into the soft tissues between the toes. In other cases it is due to material which has worked in between the pads and there become solid, penetrating the skin little by little, like a flint in a motor tyre. In yet other cases it consists solely of a plugging up of the follicles of the skin of that area—either sebaceous follicles or sweat glands—and in all cases the discharge of secretions in that position is interfered with and they accumulate. In course of time the lesions increase in size and extend upwards between the toes, and while that enlargement is going on in many cases small blood vessels become involved and hæmorrhages take place. Later, when the lesions are opened, we have got a variety of conditions exposed. In some cases the material is mainly blood; in others the material is of a more serous nature, and in some—particularly in recurrent cases—purulent. In the purulent cases I think the pus organisms are secondary, and have been carried in after the lesion has previously burst and apparently healed. In my view, the material that is more often responsible than any other for the condition is tar, which is collected up between the pads: in a large number of cases where one has taken care to examine between the pads one has been able to pick out dry tar and dirt mixed together.

On opening the lesions in some of the cases that have been associated with hæmorrhage and have not burst at once, the clot that has formed has contracted and squeezed serum out of it. The clot continues to contract and that froms a small spheroidal body almost like a grape stone in shape. That body is in most cases only blood fibrin. Some of those cases appear to be almost encapsuled and I think that is the result of slow inflammatory action producing a lining from the cells of the cavity where the blood clot has laid. You all know how commonly they come up in the course of a night; in other cases they are much more slow to develop.

The thing that worries us most, however, is the question of treatment. Vaccines have been recommended; ultra-violet light; opening them and inserting disinfectants, yet in all these cases recurrences regularly occur. In my view, vaccination, at the outset is a useless procedure and is bound to lead to a fail: by that I do not mean that in some old-standing cases vaccination may not help; I think in some of those instances organisms have gained access and autogenous vaccines therefore might be helpful. The enormous number of cases that are submitted to me for treatment after having been submitted to vaccination supports my contention.

My procedure is simple but radical. I open the lesion at the top to its fullest extent forwards and backwards; then, on removing the contents of the lesion and looking into it carefully one finds a spot darker than the tissues round about—that is actually a hole, and one can pass a probe down into it; it takes a tortuous course. It is this track that prevents complete resolution in so many cases in which the lesion has been opened in the first instance. There is no drainage there and free disinfection is absolutely impossible. I insert a small grooved director and slit that track again forwards and backwards, exposing its limits: there is quite a big cavity under the membranous tissue. I then incise the skin of the lower surface of the foot with a scalpel, always having the back of the knife towards the extremity of the foot (I always anæsthetise local or general), but if he should endeavour to snatch the foot forward the web of the foot is not severed. Having made that counter opening and cleared away the

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materials within by curetting, I disinfect and insert into the track a piece of gauze which I leave in for two or three days like a seton to establish complete and proper drainage throughout the lesion. It is dressed daily and in the vast majority of cases heals without recurrence. That does not prevent dogs getting them on other toes, but the recurrence in a comparatively short time that so often results after milder forms of treatment does not occur.

It is the practice of many people to leave these things open after operation, it being suggested that the dog licking them will do more good. I fail to see any benefit, but think it is contra-indicated. The dog has not the advantage of disinfection of the wound and licking is a sorry substitute. I keep the foot bandaged and during that period healing must take place from the depths of the lesion: in the other way you get healing in a day or two, but with almost certain recurrence. The results, therefore, justify drastic procedure. Only in those cases that have been in existence for a long time do I consider that an autogenous vaccine is indicated.

Skin Diseases.

The next subject to which I should like to refer is skin diseases. I do not want a broad discussion on the whole subject of skin diseases, otherwise it would take a week to give an exposition and a month to exhaust the discussion. I would like to refer especially to some of the difficulties of diagnosis and differentiation rather than to the question of treatment particularly.

Most of the cases we meet with are mange of one type or another; other cases are those of a dermatitis of a quite different origin. It is not uncommon for dermatitis to be due solely to an uncared for skin: dirt in the coat is a common cause of irritation of the skin, causing scratching and the infliction of worse injuries on the part of the dog himself. Many cases will respond to cleanliness and the taking out of the deep old coat. Many skin troubles are made worse by the application of strong dressings in this kind of case.

Another series of conditions which will set up skin troubles are those associated with nutrition and excretion. In regard to nutrition the same factors hold good as in the human being: some people cannot eat certain foods; they get urticaria if they do. A lot of these cases are cases of true food poisoning: that does not suggest that the food is bad but that the individual is unable to digest those particular foods and especially their protein fraction. It has often been suggested that the injection of various materials may be used to correct that—things that have no bearing on the actual cause—*e.g.*, spleen extract—and in many instances good results have followed. A satisfactory explanation as to how that improvement is brought about does not seem to be forthcoming: it cannot be that the condition is a spleen deficiency, because in those surgical cases where we have removed the dog's spleen altogether the operation has not been followed by skin rashes of this kind. The explanation is a very obscure one and it is generally attributed to protein shock. I do not suggest that that is a really satisfactory explanation, but it is one that is offered to account for the improvement in some of these instances. Our results at the College have been very varied. In some cases the dogs have improved very considerably for a time, but the improvement has not been maintained, though the spleen extract has been continued once or twice a week. It may be of assistance in some cases, while clients like it—they dearly love an injection. (Laughter.)

There is another affection which will often give rise to skin irritation and trouble, which is often unsuspected but which is very common: I refer to nephritis. Chronic nephritis is one of the most common conditions with which we meet in the old dog. Frequently in the early stages all that is noticed amiss is perhaps a little loss in condition, but more often a chronic irritation of the skin supervenes. Exhaustive examination for parasites of course will prove negative. After a little while in these cases you begin to realise that there is a kidney complication: you find that the muscles of the loins begin to atrophy slightly. In those cases I recommend, always at the earliest opportunity, analysis of the urine and an examination for albumen; that should be done much more regularly by the practitioner than it, in fact, is done. Those cases of skin irritation that are connected with renal troubles will never respond to local treatment unless the kidneys also are taken in hand, and even then one cannot command success. As far as the skin itself is concerned, cleanliness is the primary thing, using for the purpose something that is not an irritant. As this type of case goes on, if you carefully examine the mouth of the dog you will often find ulceration, arising most frequently under the upper lip, where it contacts with the tush, and you may be disposed to think that the lesion is entirely due to irritation from tartar or from pyorrhœa. In many cases it is, but in those we are discussing, not only in the position mentioned but in areas inside the cheeks coming in contact with the dog's molar teeth, ulceration will be exhibited, commencing as a diffuse greyish discolouration. Gradually erosion takes place and the ulcer assumes a yellow colour, and is always associated with a very offensive odour: that is often the commencement of gangrene of the mouth. As the case proceeds, vomition sets in, suggesting gastric disorder, but on account of its irregularity and the lack of its association with the intake of food one is soon led to the conclusion that the vomition impulse is not localised in the stomach but that what is occurring is reflex vomition resulting from chronic nephritis.

I should perhaps refer to the necessity of making examinations of skin scrapings in your examinations for skin disease. You would be amazed if you saw the number of cases sent up to us by practitioners who have become tired of treating for moist eczema, which have revealed the sarcopt or demodex. Do not hesitate to examine a scraping from a bald patch where there are no pustules: some of the slaty-blue lesions will yield a rich field of demodex. With regard to sarcoptic mange, many practitioners have a difficulty in finding that parasite. You must carefully choose the site from which to take your scraping; you must get places which have not been treated for some period. Perhaps the best places are the outside of the cheeks or beneath the axilla, while the edges or tips of the ears are very common places in which to find the sarcopt when it cannot be found elsewhere. In diagnosing sarcoptic mange you might get help by questioning the owner or other persons who customarily handle the dog. When I suspect the condition I first of all enquire if the owner

has been experiencing any irritation of his or her own skin. Frequently the reply is in the affirmative and on examining the person's skin you can frequently see at once a small punctate spot which was formerly a small vesicle, the top of which has been taken off in scratching, and that is in a state of resolution; in bad cases you will see little vesicles no bigger than a pin's head. Only yesterday I had brought to me by a gentleman a dog that had been treated for some time for eczema—the animal being sent with the consent of the veterinary surgeon. The dog had been getting worse, and I suspected sarcoptic mange, therefore I asked my assistant, Mr. Holmes, to take a scraping, and we were able to demonstrate the sarcopt. The owner said that he himself was a mass of irritation all over, adding: "I have been treated by my doctor (a Harley Street specialist) for asthma; he has used ultra-violet rays." He had an extensive rash over his body—bust, abdomen, limbs and round the neck—and the conclusion they arrived at was that this was a reaction to the ultra-violet rays. I asked him to let me see the skin, and I found that the rash was one with which I was unfortunately very familiar as being associated in the human subject with colitic intoxication, but on looking into it one found numerous acari lesions. The man was making his condition ten times worse by contracting the parasitic affection from the dog. I pointed out to this man what the position was, and advised him to let his medical man know what the condition in the dog was, when I was confident that a very considerable amount of relief would be afforded him.

The Use of X-ray.

Another matter to which I would like to refer is the use of X-ray. I am a great believer in having resort thereto, but I would like to sound a note of warning against expecting X-ray to do, or to reveal, too much. The interpretation of radiographs is not at all easy until you have had a certain amount of experience, and not even then, in a large number of cases. Some interpretations are very obvious: you get an X-ray of a dog that had swallowed a stone—nothing could be simpler. But take a dog that has swallowed a piece of rubber ball: a great deal depends upon the density of the rubber, or the so-called rubber of which such balls as the sorbo are made.

A little while ago we had a dog brought into the College with the history that it had swallowed a rubber ball. Careful manual examination failed to reveal any evidence of it, although the general symptoms were decidedly suspicious. An X-ray was taken and that, too, revealed nothing. The dog was treated as a case of persistent gastritis and ultimately it died. At the *post-mortem* a fair-sized piece of sorbo ball was found in the intestine; it had caused a necrosis and the dog had died of peritonitis. This piece of ball was X-rayed outside the body by Mr. Ede and all it showed was a faint shadow. We were not satisfied, and a new sorbo ball was obtained and photographed by X-rays alongside a solid rubber ball. The latter was very dense in the picture, but the sorbo, though quite distinct, was less dense. We thought we ought to be able to see either ball in the body and, the dead dog being available, we put the two balls into the stomach and photographed through the tissues of the dog. The X-ray picture (exhibited) shows on the one side a very definite rubber ball. On the other side, in a corresponding position, is the other (sorbo) ball, but you cannot see it, it does not show. In a case of that kind where you feel sure, from the history and symptoms, that the dog has swallowed such a piece of material, one should proceed to exploratory laparotomy as early as possible.

You will find the same limitations in many other instances— in urinary calculi in the dog, for instance. With dense calculi in the bladder there is no difficulty, but there are some calculi that appear to be either transparent or semi-transparent and do not show up under the X-ray. That refers especially to calculi of the kidney in the dog: in my experience X-ray does not help in the least in these cases.

I have here a film of a spaniel with a calculus of the bladder, and if you will hold it up to the light and look carefully you see, in the lower part of the picture, curled round, a fœtus. Resort to X-rays to determine whether a bitch is pregnant or not has been made on various occasions, but it has not been found helpful, because the bones have not become sufficiently dense to show up with X-ray photography, and when they are in a sufficiently advanced stage of development X-rays are not required. This photograph demonstrates that they can and will show when the fœtus is about mature. The gain of that is, I think, as follows: we all meet with cases which the bitch has whelped and where we are not certain whether there is another puppy left, no matter how careful the examination. Again, on the other hand, you will sometimes feel a thickening of the womb that you might mistake for a small fœtus and you may say she has got another puppy, but she does not expel it. You feel disposed to suggest a laparotomy, but it is not a puppy at all, it is just a thickened uterus. I suggest that it is here X-ray will help very materially, as is shown in this particular case.

The next condition I will point out to you in this film (exhibited) is a case of complete luxation of the femur, which had been in existence eight days when it was brought to me for examination and advice. This picture will show you to what an extent luxation had occurred. I was not hopeful about it, because of the time luxation had been in existence. An X-ray was taken and it shows that the head is absolutely out of the cavity and that the round ligament was probably violently ruptured. My experiences in attempting to reduce luxations of this kind under chloroform anæsthesia are not very happy: you are rather afraid to give the dogs full anæsthesia, and if you do not get them enough under, you do not get sufficient relaxation of the muscles to enable you to reduce the luxation. In this case we did reduce it, and then I had to consider the best way to keep it in position. I decided that the only way to do so was to keep the leg completely fixed, so I had the lower part of the limb (flexed) bandaged tightly up to the thigh and the whole thing was kept trussed up to the body for three weeks. The result was most gratifying: the dog is now running about perfectly, free from lameness. Difficulty was increased by the fact that the animal was a very thick-muscled Aberdeen terrier, and I should not have had a satisfactory recovery if I had tried to reduce that luxation under chloroform anæsthesia and without the valuable aid of Professor Wright's services in this connection, in the administration of avertin.

I can assure you that there is nothing so helpful as avertin as a general anæsthetic in certain cases, and another striking example of its utility is afforded by the necessity for the extraction of the last molars of a dog. You cannot give chloroform in a case like that; morphia is undesirable because the subjects remain under it for so long that if there is hæmorrhage there is a danger of the blood trickling back into the trachea. Avertin is exceedingly useful in such cases, of which these are only two instances.

Remember, however, that avertin, like chloroform and morphine, is not fool-proof and you have carefully to select your case. Morphia and avertin are both contra-indicated in intoxication, as in some cases of metritis.

I have here three photographs taken in succession at intervals of ten days or a fortnight—a case of fracture of the femur in a dog, in which you could feel chunks of bone grating on one another. X-ray revealed that the bone was split and the shaft was displaced at an angle of 90 degrees. It looked an apparently hopeless sort of thing. The owner, however, was particularly anxious to save the dog, if possible, and I suggested that we might get some sort of union to take place, if only a fibrous one. If you look at the successive photographs, you will be amazed to see how the splinters have gradually come into apposition and the bone has straightened out. The only treatment it had was adhesive strapping, supporting it and only slightly limiting movement. It is extraordinary how well these complicated fractures will do if you can only persuade the owners to give them the opportunity.

I should like to show you this X-ray also: it is a picture of the hind leg of a greyhound first seen by a veterinary surgeon a fortnight ago. The first thing observed was œdema of the lower part of the limb. After a time he located some trouble in the limb above the patella: he thought it was a direct injury, but he was not very convinced as to what the position was. We examined this dog yesterday and came to the conclusion that the condition was osteo-sarcoma, and that it would be a hopeless thing to treat. You will see the lower end of the femur in a very rarefied condition, and periostitis, which has extended right up the bone. It is, of course, a hopeless thing to attempt treatment in a case of that kind.

Discussion.

Mr. H. Taylor (Past-President, in the chair) observed that he was voicing the sentiments of all present when he said that they were very much indebted to Professor Wooldridge for giving them such an interesting recital of cases with which they met every day and which, therefore, were of all the greater interest to them. (Applause.) There was other business before them and time was limited, but there was now an opportunity for observations and questions on the exceedingly instructive address to which they had been privileged to listen that afternoon.

Mr. J. W. H. Holmes said that, with their permission, he would like to amplify one or two of the remarks made by his chief, Professor Wooldridge.

First of all, in connection with the skin cases, Professor Wooldridge had stated that dirt dermatitis was quite common. During the past year and a half they had kept records of skin cases they had admitted to the College Infirmary, and had recently worked out the percentages of the various cases. They had found that 20 per cent. of the cases were sarcoptic mange, about 25 per cent. follicular mange, and the large majority of the remainder were consequent upon external irritation. All eczema cases were due to two causes—external and internal factors; in the majority he thought the external factor was dominant and that dirt was of prime importance. It did not always produce the symptoms of moist eczema, and quite commonly they might be confused with the lesions and symptoms of sarcoptic mange. In sarcoptic mange, however, one saw numerous excoriated papules, whereas in dirt dermatitis that was not at all usual.

With regard to skin cases of nutritional origin, most of them were sudden in appearance and sudden in disappearance.

In connection with splenic extract, as Professor Wooldridge had mentioned they tried it out in a number of these cases, and they hardly thought the results justified the expense, unless it were an exceptional case.

Professor Wooldridge might have mentioned the alopecia which was met with in connection with thyroid deficiency. In the cases they had had, a good result had followed the administration, *per os*, of liquid extract of thyroid.

Concerning the sarcoptic case and the man who had ultra-violet radiation, he might add that the wife of the owner also had an irritating skin eruption. In the treatment of scarcoptic mange he thought it was a very desirable thing to admit the case into the infirmary, to allow of a thorough disinfection of the owner's house and for the adequate treatment of the case.

In addition to the cases brought forward by Professor Wooldridge they had a young Airedale, 15 months old, which was constantly vomiting. They went through the usual series of examinations—of urine, and so forth—and at the end of two or three days they felt an enlargement the size of a walnut in the abdomen. X-ray photos were taken and proved negative and in view of that, they put the dog on internal medication, and they were inclined to favour the opinion that it was an enlarged mesenteric gland. The case got progressively worse and after some days they therefore performed an exploratory laparotomy, when a piece of a sorbo ball was found. Unfortunately, the case did not end favourably, because the bowel was perforated by that time.

Mr. Charles Roberts said that he felt that they had been privileged to hear an exceptionally interesting address from Professor Wooldridge and he was sure that they were all deeply indebted to him. (Hear, hear.)

Interdigital abscess caused them a lot of trouble, and he had been interested in hearing Professor Wooldridge's account of the operation which he performed for that condition. In some cases one found that one could get a probe through to the bottom of the foot, and in those cases he always made an opening at the bottom. Tar had been spoken of many times as an actual cause: he did not think it was—certainly they saw interdigital abscesses before they saw tarred roads.

In regard to skin diseases, he would like to ask Professor Wooldridge if he found the *Acarus* in the skin of the people who were affected, as he alleged, from dogs. He wondered how common the condition really was in the human subject: he thought they were on dangerous ground, in private practice, in talking too much about the transmissibility of this disease from the dog to people, because many owners would be very frightened and would be rid of their dog earlier than they (veterinary surgeons) wished to be rid of them as patients.

A considerable experience of canine mange impelled him to the view that the risk to mankind was almost negligible.

He wondered whether Professor Wooldridge had any views as to the causes of kidney trouble in dogs.

He had had a little experience of X-ray photographs, and in regard to renal calculi the practice of X-ray photography was very unreliable indeed.

Captain F. C. Gillard thanked Professor Wooldridge for his address, adding that they had been given a good deal of interesting material about which to think.

With regard to interdigital cysts (so-called) he wondered whether Professor Wooldridge would agree to their being termed interdigital contusions, instead of abscesses: as the Professor himself had pointed out in many of these cases they were not purulent in the first stage of their development.

In regard to the cause—putting into another category those cases due to the presence of barley, grass, glumes and such foreign bodies—he thought all other cases were more or less of the same nature, and dependent, very largely, upon one common predisposing factor—*viz.*, the condition of the patient when, owing to putting on too much weight, the pads became spread apart, exposing the delicate interdigital space to injuries. He could not recollect having seen these so-called interdigital cysts in more than one dog that was thin, and he thought it must be the experience of most of those present that these cases were almost confined to dogs too heavy for their feet.

He did not hear Professor Wooldridge say anything about the infrequency of that condition in the hind feet: it was very rarely that it occurred there, in his experience. He thought, in addition to the predisposing cause he had mentioned, that friction and excessive heat on tar-macadamed roads was probably the deciding factor, allowing the skin to become inflamed, interfering with the sebaceous gland ducts and forming casts in them.

As long ago as when a meeting of that Society was held at Canterbury, during the War—when they were trying to keep that Association going—he brought forward some specimens of that condition, which he called at the time sebaceous casts. Until these casts were removed one did not make very much progress, and further, unless one removed entirely the whole abscess sac and fibrous tissue which had been found, one did not get very good results.

In the next condition referred to—skin disease—with regard to the treatment by splenic extract, he would like to suggest that in those cases, mentioned by Professor Wooldridge, where improvement took place, that was perhaps due not so much to the splenic extract as to the advice given as to diet, and also to other treatment adopted. He was surprised that Professor Wooldridge did not mention aricyl injections: he thought that was an excellent agent in many skin troubles, and he would like to know if Professor Wooldridge had had any similar results.

With regard to *Demodex* parasites being frequently found on bald patches, he would like to corroborate that: he generally went for those patches first. As to the sarcopt, there was no doubt that by asking the client if he had any irritation one would save oneself a lot of trouble in making a diagnosis, and he would like to mention one rather personal instance. His own medical man rang him up one afternoon and asked him if he would go to a certain place and see Mrs. So-and-So, who had a Peke which was not very well. Upon examination of the dog's skin, he thought it was such an obvious case of sarcoptic mange that he told the lady owner so right away. She asked if the disease were communicable to human beings and he replied in the affirmative. She then said she had irritable spots, and, she being at the time in evening dress, he saw that she had quite a rash over her arms and shoulders; she informed him that her doctor had attributed the rash to her blood being out of order, so later he telephoned the doctor and informed him of the condition of the Peke and the conversation he had just related; the doctor thanked him cordially and asked him what he did in such cases and added that he had had no experience in treating saroptic mange.

Concerning the use of X-rays, the photographs did not often give one the answer when it was a very pointed question. The members of that Society would remember some radiographs he exhibited at a meeting at Sevenoaks. A Schipperke had been vomiting and in much pain after having been seen to swallow several inches of string. An X-ray photograph was taken, and the radiographer having been told that a packing needle was suspected, told him that he (Captain Gillard) had made a wonderful diagnosis, and that the needle was there all right. He thought that it was visible on the photograph, but asked "Should it not show up a little clearer than that?" the radiographer replying that it was quite all right. He (the speaker) said "That looks as if the needle is opposite the first rib and that is curious, because on pressure in that area pain is evinced." He put the dog under an anæsthetic and operated, but found no needle. When the radiographer was told this he suggested that it might be found on the other side, and he was quite sure the needle was there. The speaker did so, but with the same result.

The patient recovered from the anæsthetic and the operation, and the following day the radiographer and another medical man were so insistent that a needle was present that the dog was taken to a hospital, where there was an electromagnet. The staff there inspected the radiograph and agreed about the needle but the result was negative. Eventually it was decided to put the dog to sleep; a *post-mortem* was made but no needle found. That was an excellent instance of the misleading appearance sometimes presented by X-ray photographs. In the picture in question the "needle" was really the ridge of the scapula and the inferior extremity of that ridge formed the eye; indeed, it formed a perfect packing needle, to all appearances; the only thing was that it was not deep enough in colour. That well exemplified the type of error into which one could fall in interpreting X-ray photographs. He might tell them that the dog had an embolism almost obstructing the anterior aorta, and there was evidence of a very recent hæmorrhage from it, due probably to the dog vomiting.

He would like to ask Professor Wooldridge if he had had any experience of the damaging effect of over-exposure to X-ray in regard to the production of sterility. He thought it as well that they should bear that in mind, and not expose patients to too much X-ray if it were desired to breed from them, whether male or female.

Concerning extraction of teeth, did he understand Professor Wooldridge to say that it was an unusual experience to find the back teeth affected by caries and not the others? He found that the back teeth were often affected; in fact, he invariably looked at them first.

One final note—he understood Professor Wooldridge to say that he did not advocate the use of morphia in cases of metritis. He (Captain Gillard) had never had a bad result from morphia, which he always used before general anæsthesia in major operations. He had a very bad case recently, with a temperature varying up to 105° F., and in which the uterus was filled with pus, and he did not think that the use of morphia had any bad effect upon the progress of the case either during operation or subsequently, as the patient made a good recovery.

As time did not allow of a continuance of the discussion, the President now called upon Professor Wooldridge to reply.

The Reply.

Professor Wooldridge thanked the Fellows very much indeed for the kindly reception they had given to his scattered remarks in introducing those problems for discussion.

One point to which he had omitted to refer, and which confirmed his opinion in regard to those cysts in dogs' feet not being infective, was this: that, in collaboration with Sir John M'Fadyean, he kept a watchful eye on a number of cases in order that they could get one of those lesions that had never been opened. In several instances where they got cases of that kind, they took material from the centre of those lesions, under sterile precautions and Sir John M'Fadyean made microscopic examinations, sowed on culture media and injected into other dogs. In every case they were found to be free from organisms. Vaccines, then, could only be of use in secondary infections.

Mr. Holmes had referred to the use of thyroid extract by the mouth for alopecia. That was one of the points to which he intended to refer, and now he must confirm what had been said. In some instances where they had had prolonged cases of baldness that had failed to respond to everything else they had resorted to thyroid, and, in a number of instances, with beneficial results.

With regard to disinfection of people's clothing in connection with infestation with acari, there was only one effective way of doing it, and that was to bake the things: the articles usually involved were woolly things. In one instance where members of the family had been involved it was very pitiful: four members of the family had been seriously affected from two dogs, and the mother had had

serious trouble round the eyes—solely through infection from the dogs. It was an interesting fact that recently, when a joint discussion on this subject took place between the Comparative Medicine and Dermatological Sections of the Royal Society of Medicine, a medical man referred to a number of instances where the eye was affected by contagion from the dog.

Mr. Roberts had asked whether or not the acarus could be found easily in the human skin. No—it was a most difficult thing: the acarus of the human skin appeared not to burrow and form a canal as it did in the dog. Dr. Whitfield assured them that he had only found it in about three cases, although circumstances pointed absolutely and positively to acari as the source of the trouble. Indeed, one of their clients, a lady who became infected from her dog, submitted to sections of her skin being cut and fixed in an endeavour to demonstrate the parasite, yet the acarus was not found. Mr. Roberts did not think that tar had much to do with the causation of interdigital cysts or abscesses: he (Professor Wooldridge) thought that at the present time it was one of the most important causes, and that it accounted for the far greater number of those cases that they had in recent years, since the introduction of tar in road surfacing. Mr. Roberts had also enquired if he had any opinion as to the cause of kidney trouble in dogs. In the speaker's opinion, in a large proportion of cases it was one of the sequelæ of distemper. Where the kidneys had been involved during an attack of distemper and apparent recovery had taken place, the kidneys had functioned for some years and then, later, the cumulative effect had been responsible for chronic lesions and the symptoms that had followed. As to the incidence of kidney trouble in "wild" animals kept in a state of captivity, a large proportion of the Carnivores at the Zoo had been proved to have chronic nephritis. There, of course, distemper infection in early life could not be incriminated, and it appeared to be a peculiar disposition of Carnivores. Captain Gillard had made some interesting contributions to the discussion, and he would like to refer first to the use of the word "contusion" for pedal lesions. He thought it might be as good as any of the others, but he could not find any name that was free from objection. In regard to the suggestion that the weight of the dog might have something to do with it, he did think that that was a contributory factor in a number of cases, and that it accounted for the frequency with which one met with the condition in bulldogs and heavy-bodied spaniels. He did not think it was an exciting cause; it was a contributory cause. However, he got nearly as many cases in light terriers as in heavy dogs. He could not agree with Captain Gillard in regard to the rarity of the occurrence of these cysts on the hind limbs; in his experience they were almost as frequent in the hind limbs as in the fore, while it was not uncommon to find them on both hind limbs to the exclusion of the fore. Concerning the operation, he thought he had made it quite clear that all the dark-looking material under the cysts must be well curetted out; it was often the focus of some slow-growing organism that might perpetuate the trouble.

In the cases of improvement of dermatitis through the administration of spleen, most of those with which they had to deal were under their own immediate care, and they purposely refrained from giving any other treatment whatever. It was in cases kept under those conditions that they found some advantage in some and no advantage in others. [Captain Gillard: "Was the diet changed?"] There might be something in that, as there was change from home diet to College diet.

Reference was made to aricyl injections. They had tried aricyl in a large number of skin cases, and he must admit that, although useful, he had seen no more advantage by the administration of aricyl subcutaneously than he had by the use of arsenic (Donovan's solution) by the mouth. A preparation he had found of some value was a freshly-prepared solution of collargol (one per cent.) in water: a dose injected either subcutaneously or intramuscularly, varying from 1-3 c.c. according to the size of the dog, and repeated once a month. (In reply to a question by Captain Gillard), he had not used collosol manganese.

He was quite familiar with the experience related by Captain Gillard in regard to the difficulty of correctly interpreting X-ray photographs, and he had had to oppose radiographers time and time again when they suggested the presence of a needle in the region of the shoulder. He never accepted a radiographer's interpretation as against his own judgment. He advised them to be very cautious in accepting the view of the radiographer because they thought the latter ought to be able to tell them: he did not know the anatomical relations or what to expect in the case of lesions, and they should use their own judgment in preference. He did not get any trouble at all in regard to sterility produced by X-ray, because his patients were not exposed to it for a sufficiently long time.

Captain Gillard had not quite understood him in regard to the use of morphia in metritis. He used morphia in metritis himself in the vast majority of cases, but in those cases in which the patient was already intoxicated with bacterial products the morphia was contra-indicated. In other cases, where the bitch was bright and cheerful, then morphia was excellent.

The Use of Manganese in Veterinary Practice, with Special Reference to the Treatment of Mastitis.*

By A. Spicer, F.R.C.V.S., Oxted.

For the past few years, in common no doubt with many other members of the profession, I have been using manganese butyrate for the treatment of interdigital cysts in dogs. In some cases three doses given at weekly intervals gave a complete cure, but in others its use was of little avail. In the course of a conversation one day, Major Dalling told me that while in a number of cases he could get a good culture from fluid drawn from the cysts, in others the fluid appeared to be absolutely sterile. This remark gave me a good deal more confidence in the drug, because one would not expect it to have any effect unless bacteria were the cause of the cysts. It seemed to me that if it acted on streptococci in the dog there might be a large field for its use in cattle diseases, particularly in mastitis, where the udder is frequently teeming with streptococci and staphylococci: thus it was decided to give it a trial.

I could find no records in the literature for my guidance and the expense of the drug limited the experiments I could carry out, but I gave it a trial without much apparent success. About this time I heard that a Dr. Huxley, who had a herd of Red Polls in Oxfordshire, claimed to have eliminated mastitis from a Guernsey herd by the use of manganese. He very kindly sent me particulars from which it transpired that he used a colloidal preparation of manganese in practically the same dose as that used for human beings. I was able to obtain supplies of this preparation—called collosol manganese—and because of its reasonable price I was able to use it on a fairly large scale.

* Paper presented to the South-Eastern Division, N.V.M.A., at 10, Red Lion Square, W.C.1, on March 6th, 1931.

The makers recommend a dose of 5-10 c.c. of the drug for cattle, injected intramuscularly. In passing, I may point out that it is recommended that the butyrate of manganese be injected intramuscularly in dogs, but I used the subcutaneous route. I tried the colloidal manganese subcutaneously in cattle, but as it appeared to cause considerable swelling when so injected I reverted to the intramuscular route. I find the best site is into the gluteal muscles and injections should be made into alternate sides each week. There may be a swelling over the site of inoculation, which takes two to three weeks to subside, but the area which can be used for injection is large and there is no need to interfere with any of the swellings with a subsequent injection. The correct procedure is to clip the hair over the site of injection with scissors, paint with tincture of iodine and push the needle straight through the skin into the muscle for about an inch. It must be confessed that in actual practice this procedure has never been carried out and no precautions have been taken, but so far, althought several hundred injections have been given, there has never been any abscess formation.

No one seems to know how manganese acts and, so far, its use is purely empirical, but it is suggested that it repairs and increases the blood corpuscles and increases the number of leucocytes; many other drugs do that, however, without giving the beneficial effect of manganese, so there must be some other explanation. At the end of this paper an account of a number of cases of mastitis that have been treated with manganese is given, which may be summarised by saying that in cases of enlarged and indurated udders it has never failed to effect a cure. If the injury to the udder is severe, the affected quarter or quarters will gradually become reduced in size until they are completely atrophied with secretion stopped, and the cow is restored to normal health when she can be put back into the herd and the milk used from the sound quarters. Several abscesses may form and burst during the six weeks, which is the time usually taken for resolution; this seems to be rather a feature of the treatment and evidently helps to remove the micro-organisms from the udder and thus may be looked on as a favourable symptom.

When the injury is less severe the induration gradually subsides and the milk returns to normal, but usually the quantity is less and the quarter may be rather smaller than its fellow. Sometimes in such cases, after the milk appears to be normal it will give a reaction with the brom. cresol papers and the bacterial count from this milk is high in comparison with the milk from the other quarters. It will often be noticed that just before a marked change sets in a good deal of blood may be passed with the milk, but this clears up in a day or two and is regarded as another favourable symptom. Also, when a case appears to be making good progress there may be a set-back and a quantity of pus may be discharged through the teat. This, however, usually clears up quickly and it would seem to be due to the formation of an abscess within the gland.

In quite a number of cases, after the udder and milk appear to be normal by an ordinary examination, the milk, when tested with brom. cresol papers, will give a reaction and a high bacterial count. This may persist for weeks and appears to be the weak point in the treatment. Formalin is now being tried, in addition to the manganese, in an attempt to overcome this point, but in such cases the facilities of a laboratory are very necessary.

An enormous amount of work still remains to be done in finding out how far manganese is going to be useful in the treatment of mastitis, and it is only by a combination of the field worker and the laboratory that it can be carried out.

A striking feature of the effect of manganese is the wonderful improvement it sometimes makes in the health and the condition of the treated animals: their coats soon become bright and shining and they put on flesh rapidly. Doses of from 5-8 c.c. give good results and it is wise to start with the smaller dose. It has usually been given at intervals of a week, but it may be found that intervals of every four days give better results. A further advantage of using this drug is that it cuts out much labour involved in fomenting the udder, rubbing in lotions, etc. All that is necessary is to empty the gland several times a day.

I have also tried the effects of colloidal manganese on several other diseases of animals.

Johne's Disease.

My experience in treating Johne's disease is that, of all the treatments I have tried (and I think I have tried every one advocated) the use of sugar in doses of 2-4 ozs. a day gives the best results, except in the very acute or very chronic case, when it apparently does harm. In such cases the subcutaneous use of sugar tends to prevent further wasting. If manganese is given at the same time the temporary results are marvellous but deceptive. Manganese by itself gives good results for a time, but it has no really curative effect. It is possible, however, that when manganese and sugar are given together for two or three weeks the loss on the carcass of the animal may be considerably reduced.

White Scour.

The experiments in the treatment of Johne's disease are only mentioned because of what they led up to. A heifer, about a year old, on a farm where Johne's disease was fairly prevalent, was brought in from the field scouring badly. She received two or three doses of manganese, appeared to make a complete recovery, was turned out and was not heard of again, but when it was found the manganese did not cure Johne's disease it had to be presumed that the drug had some influence on the germ that causes scouring. Another heifer, about six months old, began to scour and promptly responded to manganese. Several calves in the same herd began to scour, and as Parke Davis white scour vaccine is expensive a trial was made with manganese. Injections were given in the afternoon and next morning the calves were normal and remained so. In another herd a calf started scouring and was dead within 24 hours. The next calf that arrived showed apparently the same symptoms and when seen was showing acute symptoms of white scour. An injection of 2 c.c. of colloidal manganese was given and next morning the calf was quite fit and did well.

The dose for calves is 2 c.c. given at intervals of four to seven days. In calves the gluteal muscles are small and I find the best site for injection is into the biceps femoris muscles, care being taken not to hit the popliteal gland.

Diarrhœa in Dogs.

The successes achieved in the treatment of calves led me to try the drug in the treatment of diarrhœa in dogs. The first two cases were Alsatian puppies which had persistent diarrhœa resulting from distemper. After two injections the fæces were normal, but both puppies ultimately died from the distemper, which seems to show that the diarrhœa was due to some germ other than the distemper virus. The next case was a golden retriever suffering from diarrhœa without any rise in temperature. This had resisted other forms of treatment, but manganese made a final cure within 24 hours. Four Saluki puppies, about eight months old, had been suffering from diarrhœa, without any rise in temperature, for about a fortnight and had been treated with the usual remedies without success. All other treatment was stopped and they each received an injection of manganese. In four days they were nearly normal and a second injection completed the cure.

As in calves, the best site for injection would appear to be the biceps femoris muscles. The dog may be stiff or lame for one or two days after injection but this does not appear to cause much pain. The dose for dogs is 2 c.c. at an interval of four to seven days.

Follicular Mange.

Seeing the results achieved by the use of manganese in all forms of boils and streptococcal infection, it seems highly probable that it will be useful in the treatment of follicular mange, and I am only waiting for a suitable opportunity to try it.

Contagious Abortion.

Three cows, definite cases of contagious abortion, have each received six injections of manganese, but it is difficult to say what results have been obtained until these cows have calved again, unless it could be proved in some way that the bacteria had been destroyed. I have tested the blood from these cows, but it still gave a positive reaction to the agglutination test. It can be assumed that if the manganese should eliminate the abortion bacilli it would hardly be likely to have any effect on the agglutinins.

It must be realised that the whole of this work has been experimental and a prolonged trial will be necessary to prove whether these favourable results are maintained when the drug is put into general practice. It happens in medical practice that the drug appears to lose its potency for a time in certain districts, but that that potency comes back again after a time. Only further trial will tell us whether it has any action on germs other than streptococci and staphylococci.

I append the reports of a number of cases of mastitis subjected to manganese treatment.

Case I. *March 3rd,* 1930.—A Jersey cow, two off quarters enlarged and the milk was thick and clotted. Mastitis had been present in the udder off and on for over 12 months. Several treatments had failed to yield any permanent results.

March 3rd, manganese butyrate 2 c.c.
March 10th, manganese butyrate 2 c.c.
March 17th, manganese butyrate 2 c.c.
No particular improvement.
March 21st, 7 c.c. of collosol manganese was given and once a week for the following six weeks.

The two quarters gradually became normal in size and fairly soft; the milk began to improve after the third injection and was normal on April 28th.

Case II. *March 2nd,* 1930.—Guernsey cow, calved February 28th; severe mastitis near hind quarter and off hind teat blind.

Operated on the teat on March 2nd. Ordinary treatment carried out until March 17th, when two injections of manganese butyrate, 2 c.c. each, were given at two days interval.

March 21st, collosol manganese (7 c.c.), was given, also on March 26th, April 1st, 7th and 13th. The off hind quarter became affected about the 12th. The quarter gradually reduced in size, but the gland substance was still very hard; the milk in the near hind quarter was scanty and purulent. Milk from the off hind quarter had begun to improve and looked like becoming normal.

On May 9th it was decided to make an attempt at a complete cure of this cow and two others in the same herd that were more or less affected, so on May 10th, 16th, 23rd and 30th she received 7 c.c. and was passed out as cured on June 6th.

The near hind quarter had completely atrophied and dried up. The off hind was giving a little milk, normal in quality.

August 22nd, the atrophied quarter swelled up and she received 4 c.c. and a quantity of pus was discharged through the teat.

September 1st, only a little thick matter was coming down the teat. There was a lump just above the teat about the size of a hen's egg. The milk from the rest of the gland gave no reaction to brom. cresol paper.

This cow calved a dead calf on February 1st, eight days before time (the previous calf had been born dead). The atrophied quarter showed no recrudescence of the disease; the milk in the quarter which had been operated on was normal, but the near forequarter was inflamed and the milk bad. By the 9th it was showing a rapid response to treatment.

Case III. *May 10th,* 1930.—Second of three cows. Milk sometimes good and sometimes discoloured; had been affected about two months.

Received 7 c.c. of collosol manganese on May 10th, 16th, 23rd and 30th and was discharged cured on the 30th.

This cow had trodden on her teat about half way through the previous lactation and this had started the trouble. Several abscesses had formed under the skin over the udder and also in front of the udder. The udder was also enlarged.

Case IV. *May 10th,* 1930.—Third of three cows. When she calved the off hind quarter was much enlarged, milk was discoloured and clotted; high temperature for several days.

Had been calved about one week when treatment was commenced. Milk in three-quarters normal to brom. cresol paper.

Received 7 c.c. on May 10th, 16th, 23rd and 30th. Discharged cured on June 6th.

About July 15th she gave bad milk in the near hind quarter for a couple of days and then it cleared again. It seemed as though an abscess had burst inside the quarter.

August 15th, milk turned watery, gave 4 c.c.

August 22nd, turns papers slightly, otherwise normal; 5 c.c.

September 1st, normal; 7 c.c.
September 8th, off hind turns papers; 4 c.c.
September 15th, off hind turns papers; 4 c.c.
September 22nd, milk normal; 4 c.c.

Case V. *May 10th,* 1930.—Guernsey cow. Milk discoloured.

She received 7 c.c. on May 10th, 16th, 23rd and 30th. Passed out cured on June 6th.

Calved October, 1930. Milk normal for first four days and then turned in three quarters.

October 23rd, 5 c.c. October 30th, 5 c.c. Improving.
November 6th, 5 c.c. Slight improvement. November 13th, 5 c.c. No change.

November 19th, 5 c.c. No change. November 21st, no change, so gave 5 c.c. of collosol manganese which also contained a small quantity of copper. November 28th, big improvement. Five c.c. manganese and copper.

December 5th, milk normal, but turns paper.

December 13th, milk normal, but turns paper.

December 19th, milk normal, but turns paper.

The udder and the milk were both normal in external appearance and nobody would have known that anything was wrong if brom. cresol papers had not been used.

Case VI. *May 10th,* 1931.—Guernsey cow. A slight recurrent case.

Received 7 c.c. on May 10th, 16th, 23rd and 30th; June 7th and 13th.

Was passed out cured on June 24th.

Calved October 28th and was milked out twice. Milk was normal. She was found dying in her box in the morning, apparently from milk fever.

Case VII. *May 16th,* 1930.—Guernsey cow. Milk turns the papers and is slightly discoloured. Received 7 c.c. on May 16th, 23rd, 30th; June 6th, 13th and 24th. Passed out cured.

September 1st, milk in one quarter turns papers; 7 c.c. given.

September 8th, milk in two quarters turns papers; 5 c.c. given.

September 15th, milk in near fore quarter turns papers; 4 c.c. given.

September 21st, milk normal; 4 c.c. given.

Has calved again and is giving 5 gallons.

Case VIII. *May 23rd,* 1930.—Guernsey cow. The milk failed on May 23rd and on May 31st.

June 6th, 13th, 24th; July 1st and 7th she received 7 c.c. and treatment was stopped, although the papers changed very slightly.

August 15th, milk curdled; 4 c.c. given.

August 22nd, much better; 5 c.c. given.

September 1st, still improving; 7 c.c. given.

September 8th, off hind turns paper; 4 c.c. given.

September 15th, off hind turns paper; 4 c.c. given.

September 24th, both off quarters turns papers very slightly; 4 c.c. given.

As this cow was drying off quickly it was thought that this might be the cause of the papers turning, so she received no further treatment. She has since calved and the milk is normal.

Case IX. *August 11th,* 1930.—Guernsey. Milk curdled, gave 5 c.c.

August 18th, 25th; September 1st, 7 c.c. each time. Steady improvement and on the 1st, just turns the papers.

September 8th, off hind milk turns paper, the rest normal.

September 15th and 24th, gradually improving; 4 c.c. each time.

October 28th, milk normal and on February 9th, 1931, was still normal.

Case X. *August 15th,* 1930.—Guernsey cow, milk curdled one-quarter; gave 4 c.c.

August 22nd, 5 c.c.; much better.

September 1st, 7 c.c.; only turns the papers.

September 8th, 5 c.c.; both near quarters turn papers.

September 15th, 4 c.c.; milk from near fore quarter turns papers.

September 21st, 4 c.c.; milk normal.

Calved December 5th. Retained after-birth, milk from one-quarter turns paper and is a little short.

By December 19th the milk was normal, but started to turn the papers again. On January 1st milk started to turn paper on one-quarter and still does so.

Case XI. *August 20th,* 1930.—Guernsey cow. Pus from one-quarter, 4 c.c.

August 25th, 5 c.c., no pus, turns papers.

September 1st, 7 c.c., still turns papers.

September 8th and 15th, 4 c.c., still turns papers.

September 21st, 4 c.c., milk normal.

Case XII. *August 20th,* 1930.—Guernsey cow. Milk turns papers, 4 c.c.

September 1st, 7 c.c., still turns papers.

September 8th, 5 c.c., milk from near hind turns papers.

September 15th, 4 c.c., some pus.

September 21st, 4 c.c., very slight change in papers.

September 28th, 5 c.c., very slight change in papers.

This cow is nearly dry.

Case XIII. *November 10th,* 1930.—Guernsey cow. Came in this morning with swollen quarter and curdled milk, gave 5 c.c. At the next visit the milk was normal and has since remained so.

Case XIV. *April 11th,* 1930.—Shorthorn heifer, calved December 8th, 1929, with mastitis in the off hind quarter; abscesses formed under the skin of the udder at intervals and burst.

Was called April 11th. Off hind quarter showed considerable atrophy and yielded thick stinking pus. She was very thin and stiff and could hardly walk, very poor appetite.

On April 15th she received 7 c.c. collosol manganese and one quart saline solution. On April 22nd repeated both. She is walking and feeding better. An abscess had formed and burst.

On April 29th repeated both injections; now goes out with the other cows.

On May 6th abscess had burst and another was forming, gave normal saline.

On May 13th abscess had burst, gave 7 c.c. She was putting on flesh fast and the milk in the three sound quarters was increasing in quantity.

The affected quarter had atrophied considerably, no more abscesses formed.

About July 12th near hind quarter gave milk deeply coloured with blood, but this condition passed off without treatment.

Case XV. *June 6th,* 1930.—Guernsey cow gave 1,200 gallons last lactation; calved May 31st and had not been dried off and milk had been normal up to that date when mastitis set in.

When this cow was seen on June 6th the milk was pink and clotted in all four quarters, yield very small, no temperature, gave 4 c.c.

June 10th, milk greatly improved, very few clots, no longer pink, yield has gone up to 3 gallons; 4 c.c.

June 16th, milk steadily improving and quantity increasing; 5 c.c.

June 23rd, milk normal, quantity still increasing; 5 c.c. Case discharged. Major Dalling reports staphylococci.

Case XVI. *June 25th,* 1930.—Jersey cow, big prize winner, calved about a week and was giving pink milk and it was getting pinker. Gave 3 c.c. and there was great improvement in two days.

June 28th, repeated injection, 4 c.c., milk normal.

Major Dallings's report was no staphylococci or streptococci but a pure culture of a Gram negative bacillus.

Took 3rd prize at the Royal and on November 24th was giving over four gallons a day.

Case XVII. *July 3rd,* 1930.—Jersey cow, calved about three days; milk discoloured and clots from one quarter; gave 3 c.c.

July 7th, milk much better; 5 c.c.

July 14th, milk normal; 5 c.c., and discharged case.

Case XIX. *July 21st,* 1930.—Red poll; suffered from chronic mastitis the whole of last lactation. Temperature high; not feeding; near hind quarter very enlarged, milk wrong in all quarters and offensive odour.

Ordinary treatment.

July 23rd, no change.

July 26th, no change, temperature slightly lower. Stopped all other treatment and gave 3 c.c. Calved 27th.

August 1st, temperature normal, cow better and feeding; 4 c.c.

August 9th, cow putting on flesh fast, milk normal in three quarters, fourth quarter decreasing in size but still hard; 5 c.c.

Clinical and Case Reports.

Intermittent Colic and its Cause.

By W. J. Wright, M.R.C.V.S., Montrose.

The following case emphasises the importance of making *post-mortems* in all those obscure losses that we experience from time to time, and it well illustrates how much we may learn by following a case beyond the knacker's door.

The animal was a good-class Clydesdale gelding at farm work. Colic was first in evidence in November and had been recurring at intervals up till the time of death this month. There was a loss of condition and an obscure occasional lameness, that persisted for a day or two and disappeared. History revealed a fall into a ditch in August, but no visible injury or indisposition seemed apparent at any time. Naturally as the colics were becoming more frequent and more acute as the weeks passed, I inclined to the diagnosis of some abdominal injury or perhaps merely a dustball. At all events, as the animal was insured I continued treatment until this month, when it died in an acute colic.

Post-mortem revealed a ruptured colon near the cæcum at a point just below the lumbar region, due to obstruction, the latter being caused by a large œdematous growth involving the mesenteric arteries, the base of the cæcum, and the head of the colon at the ileo-cœcal-colic junction. The spinal cord was much thickened in the lumbar region above the site of obstruction. There was no fracture of the vertebræ, but a constriction on the spinal cord at the third/fourth lumbar joint might suggest a partial dislocation at this point.

I would say that the immediate cause of death was the rupture of the colon. From the *post-mortem*, however, it is evident that the primary cause of all the trouble was the fall into the ditch on August 5th. The lameness was either due to intermittent spinal pressure or to a mesenteric or iliac thrombosis. The arterial walls were much thickened. The œdematous swelling was of long standing, showing necrotic and gangrenous foci along with organised blood clots within its substance. This was, in my opinion, primarily a severe bruise and rupture of small blood vessels in the dorso-lumbar region at the time of the accident. The loss of condition is understood, as there must have been considerable digestive disturbance and progressive pain until the colonic rupture took place.

August 16th, 23rd and 30th, 7 c.c.

Udder normal in size, but milk from off fore and near hind quarters curdled and offensive, otherwise, cow doing well.

Owner would not continue treatment and sold cow.

Case XX. *August 12th*, 1930.—Jersey cow with mastitis during the previous lactation; had milk fever. Milk curdled in two quarters and one was considerably enlarged; gave 5 c.c.

August 19th, one quarter much better, second about the same; 5 c.c.

August 26th, induration settling down, milk in one quarter still a little curdled; 6 c.c.

September 2nd, induration much less, milk still watery; 7 c.c.

September 9th, udder normal, milk still not quite normal in one quarter; 4 c.c.

September 16th, milk apparently normal.

When examined by Major Dalling the milk contained both streptococci and staphylococci. On the second occasion only streptococci were present.

Equisetum Poisoning in a Herd of Cattle.

By John Cane, M.R.C.V.S., Wrexham.

In his standard text book, "Plants Poisonous to Live Stock," Long (p. 85), opens the section devoted to *Equisetaceæ*: "A very great deal has been written on the subject of Equisetosis or *Equisetum* Poisoning, and even at the present day opinion is divided as to which species are poisonous and to what extent." Since his references are entirely foreign in origin it may be assumed that poisoning by horsetails has rarely been recorded in this country. For these reasons it seems advisable to place on record this brief account of *Equisetum* poisoning in a herd of cattle.

A herd of 35 good-class commercial cows, being fed a ration of crushed oats, bran, maize meal and dairy nuts with a liberal allowance of hay, commenced to fall off in condition and show some diarrhœa and had lost much condition. Some were more severely affected than others, and the total milk yield had fallen by about 20 gallons.

Although the refusal of hay was very suggestive, the fact that the change to a different hay did not improve matters placed some suspicion on the dairy nuts.

Being rather puzzled as to the cause of the trouble, I sent the history of my case and two samples of hay and some of the dairy nuts to Dr. Montgomerie, the Veterinary Adviser at the University College of North Wales, who also consulted his colleague, Dr. Alun Roberts, both of whom I thank for their help, and the following report:—

"One sample of hay contained nothing to which exception could be taken from a botanical point of view. The second sample of hay contained an astonishing proportion of horsetails; in fact, this sample of 920 grams of hay contained 310 grams of *Equisetum*. Dr. Roberts identified it as *Equisetum palustre*."

On receipt of this information arrangements were proposed that Dr. Montgomerie and Dr. Roberts should come and inspect the hay and pastures of the farm with me. This they very kindly agreed to do.

Examination of the remaining hay at the farm showed that, while one hay was very heavily and more or less uniformly contaminated, the plant was present only in patches throughout the remainder. This farmer had had a particularly difficult hay harvest and the carrying off of odd loads as weather permitted resulted in hay from infested land being distributed through the greater portion of his crop. It had happened that in the two hays which had recently been used a badly infested patch had been reached.

When a fresh supply of hay was obtained the cows quickly improved in condition, the diarrhœa soon disappeared and the milk yield of the herd showed marked improvement. Later, however, the symptoms reappeared and further inspection showed that a patch of *Equisetum*-infested hay was being fed. The substitution of this fodder by hay free from the plant was followed by prompt recovery.

The examination of the pastures revealed patches of badly drained land which were very wet and on which was found a great deal of *Equisetum*. This was readily revealed by digging up the turf in which the ramifying roots of the plant were seen.

In one meadow of 10 acres a belt of the wet land ran through its whole length and in places was quite 20 yards across. The soil in which this *Equisetum* is growing is a bowl of black peat at the foot of an extensive bank of gravel.

There is little room to doubt that this was an instance of *Equisetum* poisoning and the species *palustre* is the one which European workers regard as certainly poisonous. The futility of chopping rejected fodder in an attempt to make the animals consume it is also emphasised by this experience.

The Failure of X-ray as an Aid to Diagnosis in a Case of a Foreign Body Swallowed.

By Henry Taylor, F.R.C.V.S., Hayward's Heath.

The following case is an illustration of the difficulty of accurately diagnosing stomach and intestinal troubles in the dog.

One day recently a dog, which seemed to be an Airedale by his size and build, was brought to me because he had been sick several times that morning, although apparently all right the day before. He was brought by the housekeeper, who remarked: "I wonder if he has swallowed the inside of a golf ball which I saw her playing with yesterday?" Further questioning on this point elicited the fact that she could not find the object now, but it might have been swept away.

Palpation of the abdomen caused no pain and no foreign body could be felt, therefore an ordinary bismuth mixture was prescribed and instructions given about feeding. During the next day or two he seemed to be sick once or twice but was lively and ate fairly well. For five days I did not see him; then he seemed to go back and the sickness recommenced, though the reason for it was not obvious. At the back of our mind there was the spectre of the inside or core of the golf ball, which was described as being composed of solid india-rubber and of a size rather larger than a marble, smooth, quite hard and unyielding to pressure.

The owner, fortunately, had an X-ray apparatus and took some half-dozen plates which, however, did not help the diagnosis, as no foreign body could be detected, he said. During the next 12 days the dog lost condition rapidly and had a capricious appetite with occasional vomiting of food, but little or no pain.

On the 21st day after the commencement of the symptoms I thought I could feel a lump in the region of the upper part of the abdomen, but after giving an enema, which brought away three pieces of faecal matter, it disappeared.

On the 27th day after the onset of the trouble he was so weak, emaciated, and miserable that he was destroyed. A *post-mortem* examination was made and disclosed peritonitis and distended condition of a long length of intestine and the rubber ball in the colon. The ball seemed to be firmly gripped by a spasm of the bowel and the distension was caused by the inability of anything to pass. Near the ball their was a large patch of necrotic tissue on the mucous membrane—very fœtid.

Points of Interest.—The length of time the object was in the gastro-intestinal tract was 28 days.

If it passed the pylorus one would have concluded that it would have gradually passed along the bowel. The X-ray did not help in the diagnosis: the owner said nothing could be seen. This was disappointing.

Eleventh International Veterinary Congress, London.

August, 1930.

(*Continued from page* 423.)

Blackleg (Vaccination).

By T. J. Bosworth, B.Sc., M.R.C.V.S., D.V.S.M.
Assistant Director, Institute of Animal Pathology, University of Cambridge.

It has been suggested by several workers that anærobic organisms other than *B. chauvœi* may be the causal agents of blackleg in cattle. This contention is based on the presence of *V. septique*, *B. welchii*, etc., in samples of tissues taken from animals at varying periods after death. Attention must be drawn to the frequency with which anærobic organisms of the *V. septique* and *B. welchii* groups are recovered as *post-mortem* invaders and, in the absence of evidence showing that the conditions under which these samples have been collected preclude all possibility of accidental or *post-mortem* contamination, the reports purporting to show that these anærobes can produce blackleg, are inadmissible. While there have been no major investigations into the ætiology of blackleg in Great Britain, the absence of reports from various laboratories which are in contact with outbreaks, would seem to indicate that anærobes other than *B. chauvœi* are not generally encountered. An examination of 20 samples of blackleg material sent to the author from various districts during the past six years has established the presence of *B. chauvœi* in every case. In addition, the remarkable success obtained in all parts of the world by the use of *B. chauvœi* aggressin is a striking indication that this organism is the main cause of blackleg. It is suggested that differences in opinion among research workers is attributable, in some measure, to lack of precision in clinical diagnosis, resulting in the inclusion of atypical cases.

The view is widely held in Germany that, apart from blackleg, anærobic wound infections of cattle are not infrequent, and it is considered that *V. septique* is capable of producing a fatal infection. The term "pararauschbrand" is frequently applied to outbreaks of this nature. In so far as Great Britain is concerned, there do not appear to be any authenticated cases of *V. septique* infection in cattle.

Some authorities regard *B. welchii* as a cause of blackleg, but, as in the case of *V. septique*, this contention cannot be accepted. In a few instances it has been found alone, but as a rule, it has been associated with *B. chauvœi* or *V. septique*. At the present moment

evidence is lacking to show whether it is a serious factor in gas œdema following wound infections. *B. œdematiens* has also been isolated from cattle, but little information on the rôle played by this organism is at present available. In an outbreak observed by the author, the clinical characters of the lesions served to distinguish this condition from blackleg.

The immunisation of cattle against blackleg by the vaccine of Arloing, Cornevin and Thomas has been the means of considerably reducing the losses from this disease, in spite of the fact that this product is apt to be irregular in its effects. Of recent years this vaccine has been displaced from general use by products containing so-called aggressin. Artificial aggressins are less laborious to produce than natural aggressins, and are equally reliable. The potency of the artificial product is dependent upon the vigorous growth of the organism over a reasonably long period. The culture can be expeditiously freed from organisms by filtration through a Seitz asbestos disc without losing part of the active substance during the process, thus overcoming one of the objections to the earthenware type of filter. More recently formolised cultures have been used as an immunising agent with very promising results. This vaccine has been used for the protection of animals in affected districts and has been found to be both safe and efficient. The qualities which recommend it are its safety, the extreme simplicity of its preparation and the fact that its immunising value seems to be higher than that of aggressin.

Some experiments on the value of the different constituents of young formolised cultures have indicated that living or dead emulsions of *B. chauvæi* from which aggressin has been removed, have considerable antigenic values; that formolised vaccine prepared from young cultures is a potent immunising agent; that the immunising power of this vaccine is mainly derived from the organism which it contains, but is, in part, due to the presence of aggressin; and that the quantity of aggressin present in a culture 48 hours old is much less than the maximum obtainable. Filtrates or formolised cultures are also of value in the immunisation of animals against infection by *V. septique, B. œdematiens* and possibly *B. welchii*.

Although it is generally agreed that blackleg in sheep is primarily a wound infection following parturition, shearing, etc., there is a considerable difference of opinion regarding the causal organism in this species. Some authorities consider that blackleg is a specific disease of the sheep due to *B. chauvæi*, although they recognise that other anærobes may occasionally produce infection, whilst others regard *V. septique* as the chief factor in sheep blackleg. A general review of the disease in Europe has established that over 70 per cent. of deaths reported as blackleg are due to *B. chauvæi* and that the remainder are caused either by *V. septique* or *B. welchii*. Sheep strains of *B. chauvæi* have been found to agree with cattle strains, with the exception that a proportion of cattle strains have not proved to be highly pathogenic for the sheep. The methods in common use for the protection of cattle against blackleg have been found to be quite satisfactory in the case of the sheep. Sheep can also be actively or passively immunised against the other anærobic infections. R. E. G.

Active Immunisation against Blackquarter.

By Dr. P. Rinjard.
Chef de Service au Laboratoire National de Recherches, Alfort (Seine), France.

After demonstrating in 1879 that blackquarter differed in its ætiology from anthrax, Arloing, Cornevin and Thomas in the following year described under the name of *Bacterium chauvæi* the specific agent of the former malady. It was subsequently shown that *B. chauvæi*, now named *Clostridium chauvæi*, is not exclusively met with in the "gas gangrenes," other anærobic microbes were observed to set up like conditions.

Here will be examined only immunistaion against *Cl. chauvæi*. Methods of vaccination against other anærobes determining gas gangrene will not be dealt with.

1.—Historical.

Discovery of the possibility of Immunisation. Principle of Classification of the Methods.

In 1883 Arloing, Cornevin and Thomas described the technique of vaccination of cattle. They recommended two inoculations, at an interval of 15 days, on the inferior surface of the tail, of a vaccine obtained from a virulent organic powder attenuated by heat. Various types of vaccines have since been proposed. By experimental inoculation one can estimate the value of a vaccine according to the principle on which it is based and interpret the mechanism of the accidents which may follow its inoculation.

The vaccines reviewed here have none of them virulent *Cl. chauvæi* (bacillus or spore), and its fully active toxin, together in their composition.

Classification of Vaccines to Immunise against Blackquarter, based on their Constitution.

(*a*) Vaccine containing living elements; (*b*) vaccine with no living elements.

(1) Bacillus or spore may yield virulent culture: toxin weakened.

(2) Bacillus or spore attenuated hereditarily and deprived of virulence.

(*b*) (1) Natural aggressins—juice from the lesion filtered or centrifuged.

(2) Artificial aggressins—pure toxins from bouillon cultures.

(3) Total cultures—killed.

Many vaccines proposed against blackquarter have been abandoned; mention will be made of some having historical interest.

(*a*) 1.—Vaccine containing the living germ (bacillus or spore) with qualities intact (yields virulent culture). The activity of the toxin alone is attenuated.

Belonging to this group is the vaccine discovered by Arloing, Cornevin and Thomas, which they prepared by treating the powder obtained when the liquid expressed from a lesion of blackquarter was evaporated to dryness. The activity of the toxin is modified, but the spores are intact and may be cultivated. If a few drops of lactic acid are added to the vaccine (thus preventing phagocytosis) its inoculation is followed by an attack of the disease. However, this method of Arloing was largely used and was fairly successful in areas in which blackleg was prevalent, although the bacteriological purity of the vaccine

left much to be desired—it is known that in the lesion of blackquarter other microbes are associated with that of *Cl. chauvæi,* not to mention inevitable contamination during the process of preparing the vaccine. Beside microbian impurities the physical state of a vaccine having particles in suspension hindered absorption and explained irregularities observed during immunisation.

The principle of attenuation of the toxin by heating was applied by Kitt to cultures of *Cl. chauvæi,* but was not much used in practice.

Leclainche and Vallée prepared pure cultures in blood; these, dried and heated, were used as vaccine, but objections were taken to their physical state and these savants then made use of cultures in Martin's bouillon, and in peptonised bouillon, of liver heated in sealed ampoules. This was used successfully on many animals from 1900 to 1913. This group of vaccines, though rendering great service, is to-day only of historical interest.

All have the great fault of containing viable spores not hereditarily attenuated, and a subject whose powers of resistance are lowered from any cause may fall a victim to the malady against which it is being immunised.

(*a*) 2.—Vaccine of which the living element, bacillus or spore, hereditarily attenuated, is deprived of virulence. This vaccine, inoculated subcutaneously or intramuscularly, produces no lesion. The vaccine spores are easily destroyed by the natural defences and their limited multiplication remains sufficient to constitute immunity.

The vaccines of this group differ from those of the preceding one, in which the toxin only is modified: here there is effective attenuation of the microbe comparable to that in which Pasteur transformed anthrax bacillus to vaccine. Leclainche and Vallée have alone attained this end in dealing with *Cl. chauvæi.*

In 1913 these authors succeeded in obtaining races of *Cl. chauvæi* hereditarily attenuated to a degree which allowed them to be used as vaccine. The microbes were grown in peptonised bouillon of liver, a dysgenic medium, at 43°-44°—an unfavourable temperature. Cultures are kept in the stove 15 days and then tested on the guinea-pig. Absence of pathogenic power is observed in bovines and ovines, even if given intramuscularly, and solid immunity is obtained. A single inoculation of 1 c.c. subcutaneously suffices for animals of any age. This vaccine has been used over the whole world and always successfully. Between 1910 and 1913, 345,844 animals were vaccinated with results everywhere identical.

Numerous vaccines of attenuated pure cultures are to-day used in various countries, probably suggested by formulæ introduced by Leclainche and Vallée.

Vaccines having no Living Elements.

(*b*) 1.—*Natural Aggressins.*—Roux, in 1888, showed that serosity from a lesion of blackquarter filtered by candle and injected, subcutaneously, in 1 c.c. doses for 12 days to guinea-pigs, rendered the animals immune.

The soluble products of the lesion of blackquarter were named by Bail "aggressins." The liquid from the lesion, freed from living microbes, contained the natural aggressins. It is avirulent and is endowed with immunising power. Schobl removed a blackleg lesion from a guinea-pig. The expressed juice from the lesion was centrifuged and preserved by tolune. This liquid rendered guinea-pigs refractory to blackleg. Several experiments confirmed the value of natural aggressin both in the laboratory and in the field.

It is to be remembered that to obtain natural aggressins for immunising purposes an experimental animal has to be sacrificed, the process is long and delicate and the product unstable; better, then, to make use of the toxins of cultures for immunising.,

(*b*) 2. *Pure Toxins from Broth Culture or Artificial Aggressins.*—It was Roux who first made use of whole cultures, deprived of living germs,. to immunise against blackquarter, using a guinea-pig as subject and injecting the material into the peritoneal cavity. The *Cl. chauvæi* in the culture were killed by heating it to 115° C. The experiment succeeded, but it was only undertaken to establish a principle of immunisation.

Kitasato immunised guinea-pigs against blackquarter by inoculating them with old cultures and with cultures sterilised by heat. These attempts were not followed by field tests. The views of Roux and Kitasato were only realised when, for the "brutal" action of heat, antiseptics were added to the cultures so as to kill bacilli and spores while conserving intact their antigenic value and that of their toxins. The principle was taken up by Leclainche and Vallée, who established that whole cultures of *Cl. chauvæi* sterilised by formalin constitute sterile antigens much more active than similar filtrates and give solid immunity to guinea-pigs and bovines.

These vaccines, which the authors called integral vaccines, were obtained from cultures of different ages concentrated by the centrifuge, and formalin added.

The vaccine is given subcutaneously to bovine and guinea-pig in doses of 0·5 c.c. to 5 c.c. and gives an immunity that enables the subject to resist, 10 to 30 days later, lethal doses of the corresponding culture. Kept away from light, this vaccine is active at the end of a year.

The method lends itself to the preparation of auto and mixed vaccines. From May, 1924, to December, 1927, 14,960 bovines were injected with integral vaccines without accident. In very infected areas 2,681 bovines were protected, while from two to eight per cent. of non-inoculated controls perished. These statistics are confirmed by several writers. Green in South Africa used whole cultures killed by formalin and stated that 250,000 doses were utilised each year with success. He prefers formalised whole culture to filtered culture and considers that the dead bacilli in the former lend activity to its toxins—the endotoxins of the dead bacilli are added to the toxins diffused in the bouillon. Thus there is at our disposal a second means for rapid preparation of vaccine of high immunising power, mixed cultures of various races of *Cl. chauvæi* as well as auto-vaccines, especially adapted to certain particular conditions.

Choice of a Method of Immunisation.

Where possible, only those vaccines should be employed from which the living specific germ is absent. Thus the first group, in which only the toxin is attenuated, the spore remaining intact and capable of developing if the subject's resistance is lowered from any cause, is to be avoided. The other four groups are without danger in use and have been found satisfactory, but we have no criterion of their antigenic value.

Natural aggressins are in no way superior to those from cultures; their preparation involves the sacrifice of the experimental animal and demands delicate technique and controls. The use of toxins of cultures is to be preferred.

We have then two principles of immunisation to choose from—(*a*) that in which attenuated viruses are utilised; (*b*) that based on the employment of toxins from filtered cultures, from cultures super-centrifuged and then formolised or finally from whole cultures deprived of virulence by formalin.

Attenuated vaccines can be cheaply prepared, and the dose is small, but where auto-vaccination is indicated the slowness of their preparation forbids their use.

They have been employed on millions of animals in South America, the subjects being at the same time inoculated against anthrax. The rapidity with which toxins for inoculation can be prepared recommends this form for auto-vaccination, and their use is for other reasons more general.

This report shows that for the prophylaxis of black-quarter we have at our disposal methods which are innocuous and the value of which has been demonstrated in the laboratory and in the field. W. R. D.

In Parliament.

The following question and answer have been recorded in the House of Commons recently:—

Animal Diseases (Research).

Sir B. Eyres Monsell asked the Minister of Agriculture what steps he proposes to take to extend agricultural rsearch, particularly into the causes of animal diseases?

Dr. Addison: A scheme for the development of research in animal diseases upon a considerable scale is in an advanced stage of preparation and will, I trust, be sanctioned and brought into operation at no distant date. Apart from this particular scheme, I hope that arrangements may soon be made for the organised application of the most eminent scientific and practical advice to the co-ordinated development of agricultural research. The right hon. Gentleman is no doubt aware of the notable developments already in progress; I may refer particularly to the scientific expansion rendered possible at Cambridge by the Rockefeller Benefaction, and by the sums raised by the University in connection with it, which include £50,000 from the Exchequer and £50,000 from the Empire Marketing Board.

Veterinary Inspection in the Isle of Man.

The *Isle of Man Times* of March 26th, states that the committee which was appointed by Tynwald to consider the desirability of the Government appointing a whole-time veterinary inspector has presented its report. The majority of the committee consider that such an appointment would be desirable, and might well be favourably considered at a future date; but the existing system appears to be adequate for the present circumstances, and having regard to the existing and impending position of the insular revenue, they cannot recommend Tynwald to take the step at present. The one dissenting member of the Committee points out that the value of the Island's livestock can safely be put at half-a-million pounds, and to maintain this stock in healthy condition is a matter of first-class importance. "It is all very well," he continues, "to lull ourselves to sleep on the satisfactory state of cattle disease, but there are three inspectors to deal with all these cattle, and not one of them is qualified. This does not obtain in any other of our national services." On economic grounds and in the interests of public health he recommends the appointment of a whole-time inspector.

Abstracts.

[**Veterinary Surgeon and Bang Disease.** E. Zimmermann. *Prager Archiv. f. Tiermed.*, 1930, Part B, pp. 136-8.]

A record of *B. abortus* infection sustained by the author in 1923, in which there was an initial feeling of dis-ease followed in three days by a rise in temperature, which persisted, with several short periods of improvement, for more than three months. The true cause was not suspected at this time and the case was thought to be a septicæmia of typhoid character. Blood examination showed a *streptococcus viridans* once and no organism on other occasions. No serological test for *Brucella* was made. Headache had been present with periods of fever during the first month of illness, but disappeared in the second month spent in hospital and at this time severe perspiration was a prominent symptom. After a course of rest in bed with injections of argochrome, streptococcal serum and auto-vaccination, the patient returned home three months after the beginning of the illness and evidently recovered from this disease soon afterwards. In February, 1930, Zimmermann suffered from arthritis, which was diagnosed as being due to *Br. abortus* infection, and it was only then that the probable nature of his other illness 6½ years ago, was made clear to the satisfaction of all the doctors who had observed the case.

J. T. E.

[**On the Use of Unspecific Cellular Therapy.** Professor Dr. Pfeiler, Dept. Animal Hygiene, Jena Univ. *Prag. Archiv. f. Tiermed.*, 1930. Part B, No. 9.]

Owing to the fact that a relatively small number of specific infectious diseases can be cured with uniform success by vaccines and antisera, the stimulus for the development of unspecific treatment of general and local diseases has arisen and much work has been done, largely in Germany, on this problem. A number of preparations, some very complex, made with a basis of iodine, cerium and latterly terpene, have been used against many disease conditions of a subacute or chronic character with the object of stimulating the tissues involved to overcome the cause and quicken the healing process. Conditions that have proved to be most responsive to this cell-stimulation therapy include—infective diseases of the genital tract in cows, lameness due to bone, joint and tendon inflammation in the horse, chronic suppuration, such as fistulous withers; joint-ill, actinomycosis, mammitis, etc.

Theoretically, the preparations employed have a general stimulant effect on the cells, more particularly on the connective tissue cells, and they also cause an increase in the production and activity of phagocytes. Certain constituents of the preparation are in addition designed to stimulate the endocrine (thyroid) glands and to favour the function of the sympathetic nervous system. The author discusses some of the preparations in use, including "Cejodyl Terpen," which is designed to be of value in respiratory affections.

The whole method of "cellular therapy" is the fruit of an attempt to rationalise the knowledge of the therapeutic action of such substances as iodine, turpentine, etc., which are known empirically to have healing properties and to

produce a theoretically correct method, based on knowledge of physiological bio-chemistry, of assisting part or all of the body to deal with the causes of inflammation.

J. T. E.

[**A Modern Method of Treating Phlegmonous Diseases in the Horse.** District Veterinary Surgeon Dr. Fürbass. *Zeitschrift für Veterinärkunde.* April, 1930.]

The writer states that, having achieved but little success with the usual forms of treatment of phlegmon, he has devised a paste, called by him "Antiphlegmonin," consisting of aluminium silicate, glycerine, acid salicylic, acid boric, mercuric iodide and etherial oils, applied hot, for the purpose of producing active hyperæmia. He finds great benefit from its use in analagous conditions, such as abscesses, swollen glands, parenchymatous mastitis or effusions.

The paste is applied to the affected part, covered with a thick layer of cheap wadding and left in position 12 to 24 hours.

In very obstinate cases Yatren vaccine is injected in addition.

[The writer would appear to have been hibernating since Antiphlogistine and Cataplasma Kaolini Co. have been in vogue.—H. H.]

Colonial Veterinary Service Report.

Trinidad and Tobago.

The Annual Report for 1929 of the Veterinary Division and of the Government Farm, by Mr. H. V. M. Metivier, B.Sc., M.R.C.V.S., is included in the Administration Report of the Director of Agriculture; published, price 1s. 3d., by the Government Printer, Trinidad.

Disease.

Tuberculosis.—Some 1,900 animals were tested under the new regulations regarding this disease and approximately ten per cent. reacted. The intradermal and ophthalmic tests were used.

Botulism.—It is estimated that 200 animals died, the majority being cattle, but all species of equines developed this condition. It occurred only in animals which grazed out. A serum was employed prophylactically. The disease disappeared when the rainy season ended. Draining and liming of pastures, and the movement of animals to higher ground, were advocated.

Economics.

Cattle numbering 6,597 from Venezuela and 799 from British Guiana, for slaughter, were imported. Considerable development of the dairy industry is reported.

Genetics.

Importations from England and Canada of horses, cattle and pigs for breeding continued. At the Government Farm a dairy herd and a Zebu herd are kept.

Pastures and Feeding.

The dairy herd, in addition to grazing, received as a maintenance ration about 80 lb. per head of grass and sugar cane tops, with 4 lb. of concentrate per gallon. The concentrate consists of equal parts cotton seed meal, oil-meal, pollard and molasses, which gives a starch equivalent 2·5, containing 0·6 protein. To each 100 lb. of concentrate a mineral mixture containing 2 lb. salt, 2 lb. slated lime and 1 lb. bone meal is added.

Veterinary Inspection at Dog Shows.

By Hamilton Kirk, M.R.C.V.S.

The following extract from an editorial article which appeared in a recent issue of the *Dog World* reveals the extraordinary attitude adopted by the Kennel Club towards the value of expert veterinary opinion:—

"The Duties of a Judge."

"An incident which, to say the least of it, was regrettable, occurred in the judging ring at a recent championship show, when a dog was peremptorily turned out by the judge, who declared on his own responsibility that it was suffering from distemper. The perturbed exhibitor thereupon called the officiating veterinary surgeon, who carefully examined the animal and certified that its temperature was normal, and it was in perfect health excepting for a slight and very ordinary wateriness of the eyes. The dog was therefore allowed to return into the ring. Whether its temporary absence from competition marred its chances of success in the award list is immaterial. What we suggest is that the judge acted entirely outside of his province.

"It is no part of his duty to consider circumstances that have no direct bearing upon a dog's competence to compete with others in its class. In acting as he did he was casting a slur upon the exhibitor, who had signed a declaration that it was free from distemper; but more especially he was openly contradicting the expert opinion of the officiating veterinary surgeon, who had already examined the dog and pronounced it free from any suspicion of infectious disease.

"If judges are to question the skill of veterinary practitioners appointed to inspect all dogs on their arrival at a show, where is the virtue in the Kennel Club rule which makes such an inspection imperative"?

If a clergyman breeder is to be permitted to assume, in public, a knowledge of veterinary science superior to that of the qualified veterinarian, then I think the many specialist clubs may soon find it a matter of difficulty to obtain—free—the services of veterinary surgeons at shows.

It has often been a cause of wonder to me why Dog Show Committees (in conforming to the rules of the Kennel Club concerning veterinary examination of animals) continually expect these services to be rendered *gratis*. Most of them can afford to pay a fee, and many should offer a substantial sum in return for the many hours of work imposed upon their veterinary officers.

As matters stand, however, it is somewhat surprising, to say the least of it, to find that a professional opinion should be permitted to be overruled, as was the case in the instance quoted above.

It is some satisfaction to see with what broadminded common sense the editor of the *Dog World* regarded the incident; and the sentiments expressed in the above editorial will undoubtedly be shared by all veterinary surgeons who read it.

N.V.M.A. Divisional Reports.

South-Eastern Division.

Annual Meeting and Dinner in London.

A highly-successful precedent was established by the members of the South-Eastern Division on March 6th, 1931, in the holding of a London meeting.

There was a good assembly at 10, Red Lion Square, W.C.1, where a most interesting afternoon Annual Meeting was held prior to the Annual Dinner at the Holborn Restaurant in the evening.

The Chair was occupied at the Dinner by the President (Mr. Hugh P. Hogben), but the Past President (Mr. H. Taylor) officiated at the meeting, at which there were also present Mr. J. K. Bateman, Captain J. Bell, Captain G. W. Bloxome, Mr. A. G. Cattell, Captain A. T. Crowther, Mr. J. B. Dier, Major G. W. Dunkin, Mr. A. Eccles, Major J. I. Edgar, Mr. R. A. Edwards, Captain F. C. Gillard, Captain W. D. Halfhead, Mr. S. F. J. Hodgman, Mr. H. P. Hogben, Captain F. Marks, Captain J. H. Mason, Captain J. M. Richardson, Mr. Charles Roberts, Major C. Rose, Messrs. A. Spicer, A. Whicher, Professor G. H. Wooldridge and Major T. Dalling (Hon. Secretary).

There were present as visitors Mr. J. M. Armfield, Mr. J. W. H. Holmes and Professor J. G. Wright.

The receipt of apologies for absence was intimated from Messrs. J. W. Pritchard, E. Morgan, E. Ebbetts, H. S. Head, E. P. Barrett, A. T. Crowther, T. F. Hogben, H. Gooch, C. Crowhurst, F. C. Crowhurst, C. W. Perrin, J. W. N. Hinton, Captain W. S. E. Morton and Captain E. Brayley Reynolds.

The minutes of the previous meeting, having been published in the *Record*, were taken as read and were confirmed and signed.

Nominations for Membership.—Mr. J. K. Bateman (proposed by Hon. Secretary, seconded by Mr. Dier); Captain G. W. Bloxsome (proposed by the President, seconded by Hon. Secretary); Major J. I. Edgar (proposed by Major Rose, seconded by Hon. Secretary); Mr. S. E. Holmans (proposed by Captain J. Bell, seconded by Mr. Hodgman).

Hon. Secretary's Report.

The Hon. Secretary presented his report for 1930, which was as follows:—

"During 1930, three meetings of the South-Eastern Veterinary Association were held.

"(a) *On January 30th* the Annual Meeting took place at Tunbridge Wells, when the re-elected President, Mr. H. Taylor, presided over a meeting of 17 members and three visitors. Mr. J. R. Barker, Hereford, attended and presented a paper on "Are Present Methods of Combating Contagious Abortion Effective"? Dr. W. H. Andrews from the Laboratory of the Ministry of Agriculture kindly opened the discussion. Without doubt this discussion did a lot to clear up some of the debated points in connection with contagious abortion and created much discussion among those present.

"(b) *On June 6th*, the Society met, by kind invitation of the Principal, at the Royal Veterinary College and was entertained to a programme of exceptional interest to which most of the staff of the College contributed. The presence of 22 members and 37 visitors shows the interest taken in the meeting. The programme consisted of an exhibition of films of educational value in connection with surgery, etc., explained by the Principal, a demonstration of methods of examining dog's skin for the presence of acari, etc. (by Mr. Holmes), the use of Avertin as a general anæsthetic in dogs and cats (by Professor Wright), and operations—ovaro-hysterectomy (Professor McCunn) and median neurectomy (the Principal). This was the most successful meeting of the year. At this meeting the Honorary membership of the Society was conferred on Principal Hobday. The Secretary (Mr. W. S. Gordon) intimated his desire to resign from that post consequent upon his transferring his duties to Edinburgh. We all felt that we were losing an ideal Secretary but that we must accede to his request because of his new appointment. The present Secretary was elected to fill his place.

"(c) *On November 5th* the final meeting of the year was held at Tunbridge Wells, when 22 members and six visitors attended. The important business transacted was the election of the office bearers for 1931. Mr. H. P. Hogben, who filled the post of Secretary and Treasurer for many years, was unanimously elected to the Presidential Chair. The programme consisted of a series of short papers of clinical interest. In all, seven members presented short papers which evoked much discussion.

"The Society now consists of 45 members and four Honorary members.

"On the whole, the year 1930 has been successful and has been marked by the variety of the programmes. It is felt that the Society is now as strong as ever it was and we feel that under the leadership of Mr. Hogben another successful year has been begun."

The Chairman, commenting on the report, which was received with applause, said that he thought they might congratulate themselves upon the strong position revealed in the Hon. Secretary's excellent report. He would now ask Major Dalling to make a statement in his capacity as the Division's Hon. Treasurer.

Major Dalling complied, observing that the audited statement of accounts had been before the Council at their meeting held just previous to that gathering, and had been approved by that body. The statement showed that the finances of the Society were in a satisfactory condition.

On the proposition of Mr. Dier, seconded by the President, the Secretary and Treasurer's Report and Statement of Accounts were received and adopted.

Royal Sanitary Institute Congress.—A letter was read from the Secretary of the Royal Sanitary Institute, inviting the Division to send a delegate to the Annual Congress of the Institute to be held in Glasgow in July. The Council's recommendation that the Hon. Secretary be appointed to represent the Division was unanimously agreed.

Victoria Veterinary Benevolent Fund.—The Chairman informed the meeting that it was recommended by the Council that this year's donation to the Victoria Veterinary Benevolent Fund should be the sum of £3 3s., and this was agreed.

"*Handbook for Veterinary Surgeons.*"—The Chairman drew the attention of members to the recent publication of a revised edition of this book, the author of which was Dr. Fred Bullock, Secretary and Registrar, R.C.V.S. This exceedingly useful work had been brought right up to date and considerably increased in size, and any who had not yet bought a copy would be well advised to remedy the omission. The price was only 5s.

Captain F. C. Gillard supported the Chairman's observations in this regard, whereupon the latter announced that the Hon. Secretary would be glad to forward orders for the work.

Next Meeting.—The Hon. Secretary reminded the members that some years ago the Society met at the Wellcome Laboratories at Langley Court, Beckenham, and he thought that, should they so desire, it could be arranged that the summer meeting should be held there. It had been proposed that at the next meeting some demonstrations should be given, and he thought that the Laboratories would form as suitable a place as any for such demonstrations.

The members enthusiastically endorsed the proposal, it being agreed that the meeting should be held on a Wednesday in June, the actual date being left to the Council to decide.

Professor Macqueen.—The Chairman said that, before they passed on to the next item on the agenda, he thought it only fitting that he should ask the members to acquiesce—as he was sure they would readily do—in the suggestion that a letter should be sent to their old friend Professor James Macqueen, who had consented to give them a paper at that meeting, sympathising with him in his illness and expressing the hope for his early recovery.

It was agreed that the Hon. Secretary should send such a letter forthwith.

Address by Professor Wooldridge.—The Chairman now called upon Professor G. H. Wooldridge to give an address entitled: "Some Clinical Notes," which was followed with the greatest interest by the members and which promoted a well-sustained discussion. [A report of the address and of the discussion is reproduced at the commencement of this issue.—Ed.]

Paper.—At the conclusion of Professor Wooldridge's reply, the President rose to say that there was still time for them to hear Mr. Arnold Spicer's paper on "The Use of Manganese in Veterinary Practice, with special reference to the Treatment of Mastitis," but that he feared that discussion upon it must be deferred until the next meeting.

Mr. Spicer accordingly read his paper, which is reproduced earlier in this number of the *Record*.

Exhibits.—Mr. J. M. Armfield showed some samples of milk jars, made from the gourd, used by some of the native tribes of Africa; also specimens of the *Cysticercus bovis*, the cause of human tapeworm (which is common in Tanganyika, though rare in this country), and, finally, a few specimens of the tsetse fly.

Votes of Thanks.—The Chairman expressed the hearty thanks of the members to Professor Wooldridge for so kindly coming that afternoon and giving them so instructive an address. He moved accordingly, the vote of thanks being carried with acclamation, and Professor Wooldridge making suitable acknowledgment. Similar tribute was also paid to Mr. Spicer for his paper and to Mr. Armfield for his exhibits.

The Hon. Secretary voiced the gratitude which all felt to Mr. Henry Taylor for the able manner in which he conducted the meetings from the Chair during the past two years.

Mr. Taylor, acknowledging the compliment, said that his double period of office had been a very pleasant time indeed for him; he only hoped that it had been as enjoyable and as profitable to the South-Eastern Veterinary Association.

T. Dalling, *Hon. Secretary.*

. . .

The Annual Dinner.

At the conclusion of the meeting the Fellows made their way to the Holborn Restaurant where, in the company of their ladies, an admirable repast was enjoyed. The subsequent proceedings were an object lesson to all societies who invite ladies to grace their social occasions with their presence—there being an entire absence of ponderousness about the toast list and the speeches and a delightfully enlivening element in the musical and recitative contributions of the two exceptionally gifted artistes, Miss Kathleen Arnold and Miss Gladys Newth.

The Loyal Toast was followed by that of "The South-Eastern Veterinary Association," which was in the capable hands of the President of the Central Veterinary Society.

Captain G. Dunlop Martin said that in proposing that toast he felt somehow in the position (he hoped no Government official was present to hear him say so) of the victim of the unkind and doubtless untrue suggestion, that he had heard made the previous evening, that the candidate who always succeeded in getting a Government position was the one who knew nothing about his job. (Laughter.) He felt in that position because he knew very little about the South-Eastern Veterinary Society. Although he was, unfortunately and to his great regret, unable to be present at the commencement of their proceedings that afternoon, he was much impressed by what he had heard, and he hoped it might be his privilege, as it would certainly be his pleasure, to attend some more of their meetings. (Hear, hear.)

He felt very certain, from what he knew of the Central Veterinary Society of which he had the honour of being President, and from what he had read in the *Record* of the proceedings of their important veterinary association, that these and other divisions of the "National" were doing the best of good work. He was convinced of that, first and foremost, because they helped the members of the veterinary profession to get together; they helped one to appreciate the other man's point of view, and they enabled one to keep in touch with developments in the profession from all points of view.

If he might digress for one moment, one point of view was rather impressed upon him the previous evening at the meeting of the Central Veterinary Society. At the meetings of that Society they were frequently privileged to have the presence of one or two lady members, and he thought most of those present were very surprised when one lady member who was there on that occasion, touching upon a subject that had been mentioned by the gentleman who gave the paper (Mr. R. A. Willett)—the subject of insurance—informed the meeting that she had been in correspondence with at least two insurance companies during the past twelve months and, so far, she had not succeeded in getting herself accepted, as a lady veterinary

surgeon, as a fit subject to whom an insurance policy against accident could be issued. He thought that something should be done about so unjust a matter, and hoped that Dr. Bullock, whom he was pleased to see present, would note it. (Hear, hear.)

One further little point—he did think that the profession wanted more propaganda, for he was convinced that, as a profession, we were far too much in the background. They did not seem to possess any Sir Arbuthnot Lanes to ventilate their grievances, their aspirations, and so on.

He had been told that he must be brief and so, without more ado, he would give them the very hearty toast of "The South-Eastern Veterinary Association," coupled with the name of the President. (Cheers.)

The President (Mr. Hugh P. Hogben), replying to the enthusiastically honoured toast, thanked the company for the way in which they had received it, and Captain Dunlop Martin for the very kind terms he had used in its proposal. He felt some diffidence in replying for the South-Eastern Veterinary Association, and did he not realise that all present were old friends he should experience some embarrassment.

He must first express his deep regret—a regret shared, he knew, by all present—that Professor Macqueen was not there with them as their honoured guest that evening. (Hear, hear.) He was not only willing but anxious to come, and moreover, to have given them a paper at their afternoon meeting—that was quite characteristic of the whole of the Royal Veterinary College staff: they were always willing to help—(hear, hear)—but, as they knew, his state of health prevented him from doing so. They all wished Professor Macqueen an early and complete restoration to health. (Applause.)

Captain Dunlop Martin had been very kind in what he had said about them. In comparison with the Central Veterinary Society they were a very young association with a modest membership and possibly with a limited sphere of influence, or perhaps he ought rather to say a limited sphere of activity. They were surrounded on two sides by the sea and on the third side they were up against their big brother, the Central Veterinary Society. In the early days of the "South-Eastern" he wondered what he should do to them if he met the President or the Secretary of the Central Veterinary Society. (Laughter.) Whenever he approached a colleague to join the South-Eastern Society he always replied that he was a member of the "Central." He tried to impress upon him the value of membership of the "South-Eastern," not always with good effect: on another occasion writing to a member of the profession a reply would come stating he was thinking of joining either that Society or the "Central." In due course he (Mr. Hogben) would send him a notice of meeting, when the final, crushing communication would arrive, conveying the information that the prospective member had joined the Central Veterinary Society. (Laughter.) However, he was in quite a magnanimous mood that evening, and he was quite prepared to say that they were exceedingly pleased to have with them the President of the Central Veterinary Society, and that they would always be on very excellent terms. (Hear, hear.)

Reference had been made to the value of veterinary Society meetings. The three reasons given, in the rules of their association, for their existence as a Society were (1) to promote knowledge, and it was a good thing for minds to meet together, great and small; (2) to promote affluence—that was a difficult subject—(Laughter)—and (3) and most important, was to promote sociability. It was indeed good for them to meet together and rub off any odd or rough corners: not only that, it included meeting the ladies. (Hear, hear.) They were always very pleased to see ladies there, and he felt that it was incumbent upon him that evening to thank the ladies for their presence and to say how very welcome they were. (Cheers.)

Mr. Henry Taylor submitted "The National Veterinary Medical Association of Great Britain and Ireland," saying that it was interesting to look back at the formation of that great Association, which was agreed upon in 1881 at the British National Veterinary Congress as the result of a proposal made by Mr. George A. Banham, and seconded by Mr. George Fleming. The opinions of the various existing Veterinary Societies were then sought, and at a meeting held at 10, Red Lion Square on October 27th, 1882, the Association was founded as "The National Veterinary Association." At the meeting Mr. G. Fleming was elected President and Messrs. J. Penberthy and G. A. Banham, Secretaries.

The first general meeting took place at the Society of Arts' Rooms, John Street, Adelphi, London, on May 8th, 1883, when over 70 members were present out of a total membership of 175. To-day the membership was 1,644. (Hear, hear.)

They next came to 1909, when Dr. Bradley, in his Presidential Address to the Scottish Metropolitan Division, adumbrated a scheme whereby the "National" should amalgamate with the various Societies up and down the country, and a committee was formed to advance the scheme. The proposal was eventually formally approved at Carnarvon in 1911.

Dr. Bradley was the first President after the incorporation of the "National Veterinary Medical Association of Great Britain and Ireland" in 1921, in which year the *Veterinary Record* was adopted as its mouthpiece.

He thought that all should do whatever lay in their power to support the *Veterinary Record* and to help the Editorial Committee, who, he was sure, often found it difficult to provide material of the type most interesting and useful to the general practitioner. Therefore, if any of his hearers had cases of interest, they should be reported to the *Record*, which would be only too glad to make use of them.

The objects of the N.V.M.A. were the promotion and advancement and veterinary and allied sciences and the maintenance of the honour of the veterinary profession. It also had to do with the approval or disapproval of the various posts open to veterinary surgeons: perhaps it had not the standing of the British Medical Association in that respect, but they hoped for better things.

In addition to the various Societies which were in affiliated membership with the N.V.M.A., there were the Dominion and Colonial Societies, the last to come into line being the Indian Veterinary Service Association.

They regretted that the President of the N.V.M.A. was not with them that evening, but in his place was Professor Wooldridge, who had, in his time, occupied practically every office that the Association had to offer. (Cheers.)

As he had stated earlier, the membership of the N.V.M.A. now stood at 1,644: on the Register, R.C.V.S., the numbers were very much in excess of that; it followed, therefore, that not every member of the R.C.V.S. was a member of the N.V.M.A.—as he ought to be (hear, hear), because the greater the numerical strength of the "National" the greater would be the advancement of the profession as a whole, and of veterinary science. As soon as a man qualified he ought to join the Association automatically: increased membership would mean increased benefits for the profession.

One of the previous speakers had made reference to propaganda. When speaking to a reporter on one of the southern papers recently, he mentioned that the College at Camden Town was in sore need of funds, when the reporter said that he had heard about the hospitals needing money but nothing about the College. The "National" should do more propaganda work in that respect. At a dinner they had in his little town they got Sir Merrik Burrell, Chairman of the Board of Governors of the College, to address the company on the subject. As a consequence, the National Farmers' Union Branch said they would be glad to help, and just recently they had a sale, which would result in the provision of £110 towards the Camden Town fund. (Hear, hear.) That went to show what could be done with a little push.

Mr. Taylor concluded with a reference to the finances of the N.V.M.A., which he described as being in a very healthy state.

Professor G. H. Wooldridge said that he was very proud indeed to be called upon to respond on behalf of the N.V.M.A., as a past-president of that Association, of which for a considerable number of years he had been Treasurer and Secretary; in fact, during the war, he was very nearly the "Pooh Bah" of the Association; at all events, he combined nearly all the offices at one time.

It gave him very great pleasure to acknowledge, on behalf of the Council of the "National," the kind way in which the toast had been proposed and in which they had received it. He said the "Council of the National," because they themselves were the Association and a very important part of it, for, as they knew, the Association consisted of the combination of a number of local societies, of which that was one, and the only people who could speak for the "National" apart from the component parts must be the elected members of the Council. He could assure them that the Council of the Association was anxious to get all the support it could from the various societies of which it was composed, and the loyalty of the "South-Eastern" and the keenness that was put into the Association's work by the "South-Eastern" had always been appreciated by the "National."

Their Society was by no means a sleepy Society, as they would have realised by that day's proceedings, and all the resolutions sent up by it to the N.V.M.A. always received the closest consideration, while he thought he was correct in saying that everyone of those expressions of opinion by that Society had been endorsed by the "National."

It was sometimes said that the "National" was not doing all that it should; he would suggest that the people who said that failed to realise what the activities of the N.V.M.A. actually were. The enormous amount of work put in by the various committees was beyond anything that could be imagined, and it was a labour of love which involved a great amount of self-sacrifice both in the way of time and material substance.

Concerning the matter of propaganda, to which reference had been made, it might be within the memory of some of them that two years ago the "National" went very thoroughly into the question of the promotion of propaganda on behalf of the profession. An experienced journalist was engaged at a considerable fee, and set to work under the direction of a Propaganda Committee. His duties were to get, as far as possible, various comments laudatory to the profession inserted in the lay Press, with particular reference to the function, character and scope of the work that members of the veterinary profession were entitled to perform, not only in regard to the care of domestic animals and pets, but in regard to matters relating to public health, of which the lay public know nothing. Then, too, the "National" took up the refutation of any statement appearing in the lay Press likely to give rise to misapprehension as to the general character of the profession as a whole. However, the attempt to get such material into the lay Press was profoundly disappointing in its results, and it was deemed unwise to go on, with the great expense involved: it was thought that the money could be better expended in other ways, such as the making of representations to the large public bodies in regard to the salaries offered to veterinary officers and the improvement of the general conditions under which they worked. That had met with an excellent measure of success, and he thought that, if that were more generally known, members of the profession as a whole would appreciate the work and result and realise that they personally, if indirectly, must benefit.

He would close by thanking them very sincerely for the way in which they had drunk that toast of success to the "National." (Cheers.)

The President now rose to say that they had reached the end of their programme, which he hoped they had all thoroughly enjoyed—(hear, hear)—and it only remained for him to say that he trusted that all would meet again next year. (Cheers.)

Sheep Worrying by Dogs.

"The worrying of sheep by dogs is always a source of trouble when the ewes are turned out to grass with their young lambs," says the Agricultural Correspondent of *The Times*. "Cases of worrying are reported at all times of the year, but the bleating of the lambs seems to have a fatal attraction for stray dogs of evil disposition. So serious have the losses been in some districts that the local branches of the National Farmers' Union are advertising rewards for evidence which will lead to the conviction of owners whose dogs are caught worrying sheep. The trouble occurs not only in the neighbourhood of towns but also in the heart of the country, where local dogs might be expected to have developed a sheep sense. The law gives the farmer the right to shoot a dog found worrying sheep if this is the only means of saving the life of the sheep. It is, however, a right to be exercised with caution, and, unless he watches the sheep day and night with a gun, the damage is likely to be done when no one is at hand."

North Midland Division.*

President's Practical Address at Sheffield.

A meeting of the North Midland Division, N.V.M.A., was held at the King's Head Hotel, Change Alley, Sheffield, on March 3rd, 1931.

There were present Messrs. R. Hudson (President) in the Chair, J. Abson, T. Bowett, A. D. J. Brennan, D. D. Canning, W. Collinson, G. D. Coward, T. C. Fletcher, G. J. Furness, G. Green, S. H. Nixon, H. Thompson, A. Walker, and the Hon. Secretary.

The minutes of the last meeting were not confirmed, pending the completion of the report on Captain Barker's operation on two cows for sterility.

Arising out of the Minutes of the Council Meeting held on February 24th, the Hon. Secretary reported that the Sheffield City Council had now granted the salary of £700 for the Chief Veterinary Officer and that he had been appointed to the position.

Election of Hon. Associate.—A letter was read from Mr. Lloyd resigning membership owing to ill-health, and on the proposition of Captain E. G. Johnson, seconded by Mr. Bowett, it was resolved that, on account of Mr. Lloyd's interest in the welfare of the Division and the fact that he was largely responsible for its formation and acted as its Secretary for so many years, he should be elected as Honorary Associate and that some gift be made to him by the members. Mr. Fletcher proposed and Mr. Thompson seconded that the sum of £10 be granted to the Council from the funds of the Association for the purpose of a presentation to Mr. Lloyd.

Election of Representative to Council, N.V.M.A.—It was resolved that the President and Hon. Secretary be appointed on the Council of the N.V.M.A. to represent this Division.

Treatment of Sick Animals of the Poor.—Correspondence was read between the Chairman of the local branch of the R.S.P.C.A., Captain Rider, of the North of England V.M.A., and the Hon. Secretary in regard to treatment of animals of the poor, and it was proposed by Mr. Fletcher, seconded by Mr. Brennan, that the consideration of this question be left over until the Council of the N.V.M.A. had expressed their views on the subject.

Election of Officers.

Mr. R. Hudson was elected President, on the proposition of Mr. Furness, seconded by Mr. Bowett.

The following were elected *en bloc* on the proposition of Mr. Furness, seconded by Mr. Canning: *Vice-Presidents,* Messrs. Angler and Scott; *Hon. Treasurer,* Mr. H. Thompson; *Hon. Secretary,* Mr. W. Tweed; *Hon. Auditors,* Messrs. Fletcher and Sampson; *Council,* Messrs. Collinson, Coward, Green, Robinson, Smith, Walker and the Officers.

Social Evening.—Mr. Collinson proposed that a Social Evening be held again this year; this was seconded by Mr. Walker and it was agreed that a dinner and dance be held at the Broombank Hotel, Sheffield, on March 28th.

Mr. R. Hudson's Address.

The newly-elected President, Mr. Hudson, then gave the following address:—

In the first place, I should like to propose a vote of thanks to the retiring President, Mr. Lloyd, who has done so much for this Association, and I thank you for the honour you have done me in electing me.

In accepting the Presidential Chair for the second time I have done so with a feeling that I have usurped it from someone more fitting, knowing as I do my shortcomings as a leader and organiser and lacking that fluency of diction so much appreciated in a holder of this office. Our worthy secretary has been very pressing and I over-yielding, or this would not have come about, but whatever my shortcomings may be, I ask you to forgive them, for it will always be my endeavour to further the interests of our Society.

You will all regret that our old friend Mr. Lloyd has asked us to accept his resignation from the North Midland Association and will feel with me that, after originating it and working so hard for its welfare, that can never be, for it is our intention to make him an Honorary Associate. I hope that his health will so improve that he will be able to attend meetings more often and give us of his matured wisdom.

Our profession, like most other occupations, is to-day passing through a serious phase. That part concerned with agriculture is perhaps most seriously affected. Work has lessened and with it the returns. In the towns we are also feeling the depressing effects of bad trade and in public appointments there must follow necessary reductions. It is not a cheerful outlook, but after all, poverty is only a matter of comparison and if we are all poor it will not make much difference.

Nothing stimulates effort like poverty and I have a feeling that some scientific concerns are too well fed, though that can hardly apply to our profession—rather has its poverty stimulated it to obtain the good results it has.

There is a movement on foot of which I take a serious view, one which is not going to uphold the prestige of the veterinary practitioner. I allude to the appointment of the Ministry of Agriculture Veterinary Advisory Officers. It is doubtful if they are called for, because I cannot see how the advice which they can give can be better than, or as good as, the general practitioners', but somehow years of experience do not count and all the Government wants is laboratory training.

Under present conditions good advice is there for the asking and paying for; but there are, as you know well, clients who are never satisfied and others always wanting something for nothing and no doubt these will keep the advisor busy. He will no more satisfy them than we do. What is to be our bearing towards him—an interferer with our work? If he does not work with the practitioner I do not envy him his job. If he intends to pass his results on to the local chemist, I envy him less. The Council of the National Veterinary Medical Association is dealing with the matter and no doubt will do so as far as it is able, but the Ministry appears to be inclined to force it, therefore we shall most likely be "up against it" individually. I have always had the feeling that veterinary science, in so far as it is produced by the veterinary surgeon, belongs to him, to be sold—if you like—by him. It is his living and should be jealously guarded. A veterinary surgeon who backs up "quack" firms or

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anything else which undermines that living is a traitor to his profession and should be dealt with as such by the Council of the Royal College of Veterinary Surgeons or the members themselves. We shall have to wait and see in what way these advisors intend to set about their work, but the airing of our views may be the means of guiding the work along the lines it ought to go.

Some Modern Remedies and Instruments.

It has been suggested that I should say something about a few modern remedies and instruments. We ought to be grateful for the large amount of good work which has been done during the last few years by veterinary research workers and their co-helpers. It takes a busy practitioner all his time to keep up with them, assimilating their findings and applying them to his needs. We must not forget the chemists in our thanks, for they seem to gallop ahead; only one thing I would ask them, *viz.*, to use less awful names for their products.

I hardly know where to begin, but will make a start with Spleen Extract. It was mentioned in the *Veterinary Record* recently as a remedy for eczema in the dog and canker in the horse's foot. I have had an opportunity of trying it in eczema in a dog, using Armour's preparation. The dog recovered after two injections. In a mare with stinking thrush, almost canker, in the fore feet, there was decided improvement after the first injection. In this case I made the injection from pig spleen at a cost of 1s., whereas the Armour injection sufficient for a mare would have cost about 9s. Grease, mallenders and sallenders, eczematous eruptions, dermatitis, etc., may all benefit with this product, but it must be cheaper.

Aricyl.—An organic preparation of arsenic prepared by Bayer. It has been widely advertised to the profession and in cases on which I have tried it, it has come up to the claims of the firm. It is used in all cases where arsenic is called for. In a dog with a large erythematous patch over the loins and hind quarters recovery was obtained in about 14 days. In eczema in the dog it has given good results, and in a mare with chronic weeping dermatitis it had a marked curative result. I might remark here that the ampoules sent out for horses are of greater strength than those sent out for small animals.

Istizin.—A purgative produced by Bayer. This in one ounce doses appeared more certain than aloes in cases of obstruction of the colon, but it is apt to produce hæmaturia in some cases. It does not nauseate like aloes and ol. lini. and the patient "picks up" more quickly. It is tasteless, so should be useful for animals difficult to dose, such as pigs and sometimes dogs and cats.

Glucose.—Mentioned by Stinson as a remedy for acetonæmia occurring after parturition in cows and injected subcutaneously, the dose being nine ounces in three pints of water. It has proved a useful but sometimes a transient remedy. In a case complicated by epileptiform convulsions it brought about a cessation in two hours, and daily injection for three days almost obliterated the acetone smell in the breath. Four ounces and a half in a pint of water is sufficient for a daily injection in most cases. Along with chalk it may be advised as a remedy for debility in heavy milking cows. In exhaustion following vomiting, and debility following distemper, it may be used with benefit.

Calcium-gluconate, chloride, etc.—Prescribed after the researches of Professors Greig and Dryerre in milk fever, it has proved a valuable remedy, also in cases of tetany. It may not have any advantages over udder injection, but it will certainly benefit cases which fail to rise after inflation, though these sometimes relapse and need further injections. The injection has not been without its drawbacks, but these are being largely overcome by taking care that the solution is sufficiently dilute and the salt solvent.

Formalin.—Not a new remedy, but I would like to draw attention to its use in Stuttgart disease by Davies and McCunn. If it can cure that it should not miss being mentioned. Fourteen m. in 4 c.c. of water is injected intravenously every 24 hours.

Chloretone, Chlor-butol.—In gastric catarrh in dogs it is a great remedy. I like to give a large dose at the onset and follow up with aspirin.

Luminal Soda.—It is a preparation containing phenyl, sodium and urea. In hysteria it has proved a valuable aid in checking fits, but should be combined with bromides or iodides if curative effects are desired.

Blackquarter Aggressin.—I cannot say that it is superior to cord vaccine and it is much more trouble to use.

Distemper Vaccine. (Dunkin and Laidlaw.)—This has been quite satisfactory in my hands, but my experience has not been extensive.

Distemper Anti-toxin.—My experience with it has been unfortunate, perhaps because it was used too late. It appears to give the patient, if weak—and mine have been weak—a great shock from which they have not recovered.

Swine Erysipelas Serum.—This is one of the best things introduced and makes me long for a serum for every specific disease at prices suitable for the poorest client.

Avertin.—Professor Wright regards this as safe and reliable for the cat. It is easily administered and should be of great use for many operations on the cat which are difficult to perform without an anæsthetic. The dose needs working out with accuracy, therefore I would refer you you to his paper in the *Veterinary Record*.

Instruments.

Stomach Pump.—This is not a new instrument, there being a picture in Mayhew's old book, published about 1850, of a horse with a tube up his nostril and down the neck, but the tube used to-day is a great improvement. As used by Lang, I would place it first among modern equipment. Its use in cattle was carried out by J. Healy, of Melksham, 42 years ago when he was with us. For intestinal obstruction my favoured treatment is ol. lini 24 oz., ol. tereb. 2 oz., ammon. carb. ½ oz., Nux. vom. ½ oz., warm water 1½ gallons, given with the tube. One can go home and rest content, assured that gas will be reduced, pain eased, and of a good chance that the obstruction will be removed without the necessity and danger of dosing every few hours. In cattle its use may not be so often called for, but it may be used where the prescription is aided by fluid in quantity.

Haussman-Dunn Emasculator.—After some years of its use I have rather lost my appreciation of this instrument and gone back to the hot iron, used standing. I found that

there was always some hæmorrhage and accumulation of blood in the scrotum, which often led to sepsis and swelling.

Burdizzo Castrator.—My first instrument was very unsatisfactory, my present one "just as good." Others also have had bad results, for last summer I operated on about 45 sheep, some of which had two testicles, some one, some one-and-a-half, some two halves. They had been purchased up North and operated on the previous summer. I would suggest that the instrument be returned to the makers regularly for overhaul.

Wire Obstetric Saw.—Ordinary Bowden cable has proved satisfactory in amputating head and limbs in difficult presentation. In one case it was difficult to guide the wire through the top joint and it cut right through the pelvis after working for some time, but the heifer's life was saved.

Closed-ended Parturition Rope.—The ends are joined and a few turns of twine placed round the middle to close the loop. The loop is placed over the head behind the ears and the ring of twine pushed up to position under the jaw. It enables the head to be pulled on with safety and it is a great help in delivering both calf and foal.

Back rope for breech presentation, forced delivery. This rope has a loop at each end. The centre lies along the croup and each end is brought from in front of the stifle under the pelvis. When pulled on, the thighs do not tend to push outward so much and the muscles of the quarters bulk less, so making extraction easier.

One could go on very much further, but I think there is enough for discussion in what I have said.

Discussion.

Mr. Collinson opened the discussion and said he wished, in the first place, to thank Mr. Hudson for his most interesting and useful paper. In regard to treatment with spleen extract, he had tried this preparation, although it was somewhat indefinite. His method of preparation was to take 4 oz. of water and a teaspoonful of common salt, boil in a wide-mouthed bottle, mince a sheep's spleen and put it in this solution and leave overnight. He then strained the mixture on the following morning and used 5 c.c. doses of the filtrate on alternate days as the dose for horses. He had used it most successfully in the following cases of canker: (1) case which had been treated unsuccessfully for 18 months previously; after receiving the first injection the smell seemed to disappear and after 12 doses it was cured; (2) case which had received 12 injections and was improving satisfactorily; (3) a mare with both hind feet affected: after three injections the frog opened out and the smell disappeared and healing had begun at the bottom of the foot; (4) case with near fore foot affected; the frog had gone and the wall of the foot was badly diseased. This case had been treated for years with butyr of antimony by the owner and it was too much to expect recovery; (5) case in which both hind feet were infected; it had received three doses and the smell had disappeared. He thought this treatment would be more satisfactory in summer when no local dressings would be necessary. Asked if there had been any recurrence, he stated that there had not been up to the present, but he was not sure if these cases of canker would recur after treatment.

In regard to chloretone, he found it a good drug in dog practice and gave an experience of a Labrador retriever of his own which he wished to destroy painlessly by giving a sedative before chloroforming. This dog had a total of 100 grains in a period of six or seven hours and showed no signs of sleepiness. He would like Mr. Hudson to say what was the toxic dose of this drug in a healthy dog. The speaker mentioned the stomach tube as being one of the best instruments used of late in horse practice; all his medicine was now given by stomach tube in that animal. He was surprised at Mr. Hudson's opinion on the Haussman-Dunn Emasculator, as he had castrated old horses and bulls with this instrument, which he dare not have done with the écraseur. With the Burdizzo castrator the cord often slipped out and he had used a pair of gas pliers with very much better results. The wire rope in parturition cases was a great improvement on the embryotomy knife.

Mr. Bowett said that some time ago he had a case of what he found was follicular mange in a dog and had given Aricyl injections with no success. He found Istizin a very useful purgative for pigs. In regard to the Dunkin and Laidlaw vaccine for distemper, he had vaccinated 60 fox-hounds in 1929 and many of these dogs seemed to have a mild form of distemper after injection, but there were no casualties. In 1930, puppies were brought into the kennels, which had not been vaccinated. These and the 1929 fox-hounds all developed distemper with typical symptoms, the peculiar feature being that the fox-hounds had no temperatures worth mentioning, whereas the puppies ran high temperatures. This year he had done ten puppies which were being mixed with the 1929-30 dogs and these are being carefully watched to see if they develop distemper. He always considered the complications of distemper worse than the disease and he never could understand no temperatures being shown in the inoculated hounds of 1929. He tried chloretone most unsuccessfully in the cat. His experience of castrations, which Mr. Hudson carried out for him, had been that the colts which were castrated by the Haussman-Dunn emasculator and then seared with a hot iron showed less swelling than by any other method. He considered that it was the blood in the scrotum which became infected and the iron saved any drippings. He mentioned that he had often found chalk, common salt and sulphate of iron useful for sprinkling on cows' food to make them eat better.

Mr. Green agreed with Mr. Hudson that swine erysipelas serum was very useful. Calcium gluconate treatment in 150 c.c. doses from sealed tubes had been used successfully as a preventative, given 12 hours after calving when there was a danger of a high milking cow going down with milk fever. He thought practitioners ought carefully to consider the question of prevention by this method.

Mr. Coward asked what serum Mr. Hudson favoured and mentioned that young pigs often died quickly when affected with erysipelas.

Mr. Thompson asked if Mr. Hudson had seen any recurrence of distemper in dogs treated with Dunkin-Laidlaw vaccine.

Mr. Hudson, in reply, said he was pleased to hear Mr. Collinson speak so well of the spleen extract treatment. In regard to chloretone, he had found that one drachm would kill a terrier if in a weak state. With the Burdizzo castrator imperfect crushing was more often to blame for bad results than anything else. In castration of the horse he injected the posterior parts of each epididymus with 2 to 3 c.c. of 5 per cent. solution of cocaine in year-olds and 6 or 10 c.c. in older horses. He used erysipelas serum obtained from the International Serum Company, Norwich, and he found it a useful curative of disease, giving 1 c.c. to pigs three months old and 10 c.c. to large boars and sows. Chloretone was very successful on dogs which vomited on a train or car journey. He had found aricyl injection of no benefit in follicular mange. He had no experience of recurrence of distemper in vaccinated dogs. He agreed with Mr. Green that the calcium gluconate might be tried as a preventive, but as the excretion of this salt from the body occurred quickly it would be necessary to have the cow injected at the most likely time at which she would develop milk fever.

Major Abson proposed a vote of thanks to Mr. Hudson for his very interesting and instructive paper. Mr. Thompson seconded.

Mr. Hudson suitably acknowledged the compliment, observing that if time had permitted he might have given more of his experiences.

This concluded the business of the meeting.

William Tweed, *Hon. Secretary.*

Notes and News.

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events.

April 20th.—Meeting of the Editorial Committee, N.V.M.A., at 2 Verulam Buildings, Gray's Inn, W.C.1.
April 24th.—Meeting of the Royal Counties Division, N.V.M.A., at Aylesbury.
April 24th.—Meeting of the Lancashire Division, N.V.M.A., at Manchester.
April 24th.—Meeting of the Yorkshire Division, N.V.M.A., at Leeds.
May 8th.—Last day for nominations to Council R.C.V.S.
May 21st.—R.C.V.S. Voting Papers and Annual Report issued.
May 28th.—Last day for return of Voting Papers R.C.V.S. Council.
June 4th.—**R.C.V.S. Annual General Meeting.** Victoria Veterinary Benevolent Fund, Annual Meeting.
June 15th-20th.—D.V.S.M. Examinations.
July 2nd.—**R.C.V.S. Annual Dinner.**
Aug. 22nd-28th.—N.V.M.A. Congress at Norwich.

Norwich Congress.

The Railway Companies of Great Britain have agreed to allow members of the Association to travel to the Congress at the reduced rate of the ordinary single fare and a third for the double journey, **providing at least 100 members and their friends travel by rail.**

In order that this concession may be gained, members who wish to take advantage of this facility are requested to communicate with the General Secretary, N.V.M.A., 2, Verulam Buildings, Gray's Inn, W.C.1, as soon as possible, stating the number of tickets they will require. Should it be found that the requisite guarantee as to numbers can be given, vouchers will be forwarded immediately.

The reduced rate will apply from all stations in Great Britain and from Irish ports by railway-owned steamers, and by the boats of the Belfast Steamship, British and Irish Steam Packet and the City of Cork Steam Packet Companies and of Messrs. Burns and Laird Lines, Ltd.

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All veterinary surgeons holding appointments under the Diseases of Animals Acts are requested to note that, by decision of Council, N.V.M.A., arrived at on April 7th, invitations will shortly be issued to Local Authorities to appoint any veterinary officer so employed as an official delegate to the Association's Congress.

Telephone Numbers of Members, N.V.M.A.

It has been decided by Council, N.V.M.A., to insert telephone numbers in the List of Members of the Association, published yearly in the Congress Handbook. Members are accordingly requested to forward this information, without delay, to the General Secretary, N.V.M.A., 2, Verulam Buildings, Gray's Inn, W.C.1.

Professor James Macqueen.

We are glad to report that the condition of Professor James Macqueen, Past-President, N.V.M.A., continues to improve. Writing from the Hampstead General Hospital on Easter Tuesday, when expressing regret at his inability to attend the recently-held meeting of Council, Professor Macqueen stated: "I am still on my back, for the wound is healing only slowly. This is the fifth week since operation." Our readers will share our sympathy with the Professor in the tedium of so prolonged a period of post-operative recovery, and they will be relieved to have assurance that he is none the less cheerfully and steadily progressing towards health.

University of Edinburgh.

Diploma in Tropical Veterinary Medicine.

At the examinations conducted by the University of Edinburgh the following have successfully passed and have been awarded the Diploma in Tropical Veterinary Medicine granted by that University.

William Lachlan Smith Mackintosh, M.R.C.V.S., Uganda.
Edward F. Peck, M.R.C.V.S.

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Degree of B.Sc. in Veterinary Science.

At the recent graduation the degree of B.Sc. in Veterinary Science granted by the University of Edinburgh was conferred on the following:—

James Omand, M.R.C.V.S., Stromness.
William Graves Robinson, M.R.C.V.S., Carlisle.
Andrew Edward Stevenson, M.R.C.V.S., Edinburgh.

. . . . . .

The following passed the stated classes of the course leading to the B.Sc. in Veterinary Science granted by the University of Edinburgh:—

F. H. Addison (Genetics).
W. B. Forrest (Genetics).
Ian Graham (Physiology).
Robert McNeil, M.R.C.V.S. (Genetics, Entomology and Parasitology).

Personal.

Birth.—Yarrow. On April 3rd, 1931, at The Old Mill House, Wroughton, Wilts., to Carol, wife of T. B. Yarrow, M.R.C.V.S., a daughter.

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Levée Presentations.—We regret that we inadvertently omitted the name of Lieut. R. K. Kent, R.A.V.C., from our list (published in our issue of April 4th) of those presented to His Majesty the King, on the occasion of the Levée held at St. James's Palace, on March 25th.

Obituary.

Coward.—On April 9th, at 35, Abbey Lane, Sheffield, Emily Catherine, beloved wife of George Douglas Coward, M.R.C.V.S., aged 32 years.

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Jarvie.—Wishaw House, Gateshead, on March 26th, Amy Mary, beloved wife of Thomas Russell Jarvie, M.R.C.V.S.

Fire at the Royal Veterinary College.

Owing to the fusing of some electric wires, a fire suddenly broke out underneath the House Surgeon's quarters on Thursday, April 9th. It seemed for a short time as if the question of enforced rebuilding would be materially assisted by its progress. However, the fire was discovered before it had gained a firm hold and extinguished by the united efforts of the House Surgeon (Mr. R. Machin), the Stud Groom (Mr. Hitchings) and various members of the staff. The chief sufferer in regard to damage was the House Surgeon himself, who lost several personal belongings.

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Manchester Greyhound Racing Association's Effort.

"Manchester Belle Vue Greyhound Racing Association have made some splendid efforts on behalf of charity, but the one put forward for the funds of the Royal Veterinary College on Monday was a record one," says the *Manchester Sporting Chronicle* of last week. As a result of the greyhound meeting and the generosity of the club members the handsome sum of £500 will be handed over.

Professor Hobday, who was present at the meeting, after speaking of the work and needs of the College, thanked Colonel Cameron, the general manager of the Belle Vue and White City Greyhound Racing tracks, Major and Mrs. Hopkin, Mr. and Mrs. H. Farrand, Mr. and Mrs. J. Elstone, the Manchester Bookmakers' Protection Association, and the Belle Vue staff, who had given their services free, for their kind generosity to the cause of the Veterinary College.

After the meeting there was a novel auction for a young greyhound. Only bids of £1 were allowed, but in less than a quarter-of-an-hour the greyhound was finally knocked down for £100, which was given to the fund.

The Source of Infection in Tuberculosis.

S. Lunde (*Tidsskrift f. d. Norske Laegefor.*, February 1st, 1931, p. 168) draws attention to the rarity of tuberculosis in cattle in Norway. In the period 1921-27, although 163,349 carcasses were examined in Oslo, Bergen, Trondhjem, and Stavanger, signs of tuberculosis were found only in 258. In 247 of these cases the diseased carcasses were examined in Oslo; in the other three towns there were thus altogether only 11 cases of demonstrable tuberculosis. In the overwhelming majority of these 258 cases the localisation and character of the tuberculous lesions showed that they were not likely to be dangerous sources of infection; disease of the udder is rare in Norway. Lunde shows how much more important infection from human sources is by reference to tuberculin tests (Mantoux) with up to 10 mg. of tuberculin. He has examined all the 1,336 children and young persons under the age of 17 in this district, and has obtained a positive reaction in only 130—that is, in 9·73 per cent. In 112 of these cases the source of infection was traced to the positive reactor's home, in 10 to a home in the neighbourhood, and in 2 to a tuberculous school-teacher. In the remaining six cases the children had come from another district where the source of infection was unknown. In Lunde's own district, essentially agricultural, there was not a single positive reactor whose infection could be traced to a bovine source. Nearly all the infection was traceable to cases of pulmonary tuberculosis, and Lunde concludes that the most effective means of combating tuberculosis in childhood would be a consistent, deliberate system for the care of human beings suffering from open pulmonary tuberculosis.—*British Medical Journal.*

Correspondence.

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.
All correspondence must bear the name and address of the contributor for publication.
The Editor does not hold himself responsible for the opinions of his correspondents.

Reorganisation of Professional Examinations, R.C.V.S.

To the Editor of The Veterinary Record.

Sir,—May I be permitted, firstly, to express to Dr. Whitehouse my grateful appreciation of his courteous and prompt answer to my questions and, secondly, to reply to his statements *seriatim?*

The particular disadvantages which Dr. Whitehouse finds in the existing system of professional examinations constitute the motive for his scheme before Council R.C.V.S.

(1) That examiners "are unable to maintain a definite standard, but in borderline cases must give and take, depending on the examinee's attainment in another subject." If applied to pathology this statement is incorrect; for the past three years, in London, the pathology marks invariably have been decided upon before the meetings of examiners and I have no recollection that any such decisions affecting borderline cases have been altered to conform with the marks in other subjects. To establish his complaint I would request Dr. Whitehouse to specify in which subjects such bargaining takes place; if such cases be proven he would achieve his purpose by reporting them to Council R.C.V.S., and requesting a definition of the principle which should guide meetings of examiners.

(2) That the regulations penalise examinees since "failure in one subject, by making them attend all three, prevents their concentrating fully on the weak subjects, as they have again to do the special memory work on subjects already passed." Whether this be regarded as an advantage or disadvantage will depend very largely upon the individual's attitude towards professional education and examinations. The claim that "referred" failures should be enabled to concentrate on the failed subject is contradictory to his former desire that a definite standard should be maintained; it would establish two standards—a higher for the successful candidates, who would demonstrate a mental capacity for passing *all* subjects of the examination—and a lower for the "referred" candidates, who would be capable of passing only *a part of* the examination at one sitting. Furthermore, his remedy cannot be correlated with his treatment of the "rejected" candidate who is required to sit all subjects. Quantitatively the degree of variation between Dr. Whitehouse's "referred" and "rejected" student may be greater or smaller, qualitatively it is negligible. If Dr. Whitehouse will compromise his standard for a "referred" why not for a "rejected" candidate? Which principle will he choose—standard of examination or convenience of examinee? He cannot be permitted to have it both ways!

There is a serious disadvantage to examinees in the present system, but it appears to have escaped Dr. Whitehouse's analysis of the problem—namely, the classing of unequal and unrelated subjects (*e.g.*, pathology with materia medica and hygiene) in one examination; this defect, however, appears likely to be modified by the reclassification of the examinations in the five years' syllabus.

(3) That should examinees "fail in July they are required to attend opening lectures when what they need is revision of the gaps in their knowledge: if they then succeed in December they are penalised by beginning the next set of subjects in the middle of the teaching." This statement appears to contain Dr. Whitehouse's principal criticism of the existing regulations in that the holding of Christmas examinations necessarily leads to successful students commencing their new studies one term late in the session. This disadvantage to the student is not so great in actual practice, since long experience of bi-annual examinations in various professional courses in our universities and colleges has enabled teachers to adjust their course of

instruction to the system with the minimum of inconvenience to students. Before seeking to amend a system which has worked reasonably well Dr. Whitehouse should prove that certain Christmas students have been regularly placed at a disadvantage as compared with their July colleagues and then should eliminate the quality of the teaching in our veterinary schools as the causative factor. Incidentally, I have found no means of dispensing with Christmas examinations so long as students are admitted for their initial course at the new year and I have found no justification for refusing admission at such a time.

Now Dr. Whitehouse proposes to remove the disadvantage, the severity of which I believe to have been exaggerated, by replacing the Christmas examination by a special sitting in September for " referred " failures, who, so he asserts, require to revise their work before re-examination. Does Dr. Whitehouse seriously contend that a student attending general practice through the summer vacation would find opportunity or inducement to revise his work?

Alternatively, does he think the " referred " student should miss general practice in the summer vacation? Consider what my records suggest is a not improbable consequence—a student is referred each July and is successful each September for three years, thus he loses approximately half of the time available in his four years' course for instruction with a general practitioner. Dr. Whitehouse's remedy is worse than the disease.

After studying Dr. Whitehouse's arguments I am forced to the conclusion that the fundamental issue in this discussion is the quality of the teaching staff in our schools. He objects to July failures being required to attend classes in the Christmas term because they need a revision of their subject. He implies that failures derive no renewed vision by attending the new session's course; if the teacher follows the too familiar cramming system (dictating notes, etc.), I agree with him; but will Dr. Whitehouse deny there is value to failures in re-attending the classes of a teacher who, knowing his job, endeavours to inspire his students to think and acquire knowledge for themselves? The educational value of any subject to any class of student depends on the way it is taught and is independent of the existing system of examination.

(4) The quality of the teaching is the main issue in the final complaint that the schools suffer because " teaching is seriously hampered by a batch of failures who have to be prepared for an examination in December when the main class does not sit till July: this makes for a small enrolment (and income) in the spring term, and adds to the difficulty of inducing backward students to settle down to study." I have no recollection of having been deflected from my syllabus or personally discomforted by my batch of failures; on the contrary, by watching the familiar friendly faces, I am frequently reminded to deliver my lecture more intelligibly, to rouse their enthusiasm, to offer them encouragement and to save them from boredom. I am fully prepared to accept Dr. Whitehouse's statement that "teaching is seriously hampered by a batch of failures," provided he confines his definition of teaching to the cramming system so prevalent in our veterinary schools. I fail to understand why the R.C.V.S. should be required, by modifying its regulations, to perpetuate a system of cramming which indelibly stamps all who practice it, and, unfortunately for the State, many who receive it. The fault lies with the teacher, not with the present examination regulations.

The small enrolment in the spring term is more apparent than real, provided the school attends to the requirements of its students, since failures consult and will accept the guidance of their teachers as to the desirability of absenting themselves from the course. When balancing the budget depends upon the fees of students the principals of the privately governed veterinary schools must of necessity consider every educational problem in terms of cash; but the inability of such schools to provide adequate quality and quantity of staff and requisites of education is again no justification for amending the regulations under discussion; on the contrary, it is a strong argument in favour of incorporating the schools in universities or closing them.

Dr. Whitehouse has endeavoured to expose the defects in the existing regulations for examinations R.C.V.S., by certain statements of fact and opinion. I have endeavoured briefly to show that his facts are not proven and his speculations are capable of leading to alternative conclusions. On the fundamental issue, for instance, I regard the present standard of teaching as one of the undesirable features in our privately governed veterinary schools, whereas Dr. Whitehouse would justify those features and have them perpetuated through the acceptance of his scheme by Council R.C.V.S. Consequently, I am unable to conclude that Dr. Whitehouse has established a sound motive for amending the regulations R.C.V.S. in the interests of the profession at large.

Finally, the interesting announcement that Council R.C.V.S., has approved the scheme (before the schools have had an opportunity of studying the motive) invites one to ask whether Councillors R.C.V.S. appreciate the meaning of " *post hoc ergo propter hoc.*"

I am, Sir,
Your obedient Servant,
TOM HARE.

Department of Pathology,
Royal Veterinary College,
London, N.W.1.
April 9th, 1931.

Some Remarks on Bovine Sterility, with Especial Reference to the Value of Contramine.

To the Editor of The Veterinary Record.

Sir,—In the *Veterinary Record* for July 12th, 1930, Mr. J. R. Barker, of Hereford, in the course of an interesting paper on Œstrus in Cattle, drew attention to the value of Contramine in cases of irregular œstrus.

I can fully confirm all the claims that he made for it, not only in the case of the cow, but also in the case of the mare. In cases of delayed œstrum in the mare, I had been in the custom of using ovarian extract given intramuscularly (as first pointed out by me in a communication to these columns a couple of years ago, or so), but as I had such good results with contramine in the bovine, I decided recently, when an opportunity presented itself at a thoroughbred stud, to try Contramine, and this was done on four mares, which were sterile last year and which showed no signs of œstrus this year. Swab examination revealing the presence of Gram negative organisms, Contramine was injected into the muscles of the neck. One had an unnatural heat, in that she kicked at the trying board and refused service five days after the first injection. A second injection was given at the seventh day after the first, and at her next heat, service was carried out. Each of the remaining three mares came into season before the second injection was due. In none of these four cases did I carry out my usual custom of ovarian and uterine massage, with or without irrigation of the uterus with 3 per cent. Lugol.

In the case of the bovine, I have had success in two cases of nymphomania, and in three cases where œstrus has been apparently absent for several months—in one instance for nearly a year.

It is too early to state, however, if conception will be successful, as I have found, in the bovine, that when œstrum has been absent for some time, when it eventually returns, and conception takes place, early abortion or embryonic death occurs, possibly due to atrophic changes taking place in the endometrium through the long absence of œstrum. The great advantage of Contramine over the glandular extracts is its price, and the fact that its potency can be more relied upon.

A hard and fast rule cannot be laid down as to the treatment of all cases of sterility, but generally speaking, I should be sorry to discard the classic methods of Albrechtsen and Hess, as I judge by results. Dr. Frei, in his communication to the International Veterinary Congress, recently published in this paper, states that the expression of the so-called corpus luteum is empirical. I agree, and I also disagree with Williams in advocating this treatment to clear up a pyometric uterus. Clean up

the uterus first. Quinlan's recent work, in which he emphasises that changes in the ovaries and fallopian tubes are secondary to uterine changes, is borne out by the fact that these changes usually clear up themselves, as soon as the uterus returns to normal.

I think, too, that the calcium content of the blood has a far greater bearing on sterility and fertility than is generally supposed, and that deficiency will cause sterility as will undue excess.

Perhaps Dr. Russell Greig and his co-workers will compare the Ca. content of cows in œstrus and not in œstrus, and in the periods between the œstral cycles, and publish the results. They may prove of value and be a definite contribution to the knowledge of a subject that is by no means fully explained.

Yours faithfully,

J. F. D. Tutt, M.R.C.V.S.

1, St. Cross Road,
Winchester.
April 7th, 1931.

The Treatment of "Tremblings" in Sheep.

To the Editor of The Veterinary Record.

Sir,—My interest has been aroused in an article in the *Veterinary Record* of March 21st, on the treatment of "Tremblings" in sheep; and by a letter on the same subject, by Colonel Bowes, in your issue of April 4th. I am not so much concerned by the question of ethics, which forms the main theme of these communications, as by another aspect of the matter.

My interpretation of the position is this, that a series of experiments are to be carried out, in order to determine the efficacy or otherwise, of calcium gluconate in the treatment of the above condition. But one is immediately faced with the question, what *is* "Tremblings" in sheep? The existence of a tremble, or the exhibition of a staggering gait, has a different significance according to whether it appears before or after parturition. In the former event, one may be dealing with a manifestation of one of the toxæmias of pregnancy, whereas in the post-parturient type the condition is in all probability that of lambing sickness.

Lambing sickness has been shown by Greig to be due in every case to a calcium deficiency in the blood. It would be expected, therefore, that such cases would be, as, in actual fact, they are, relieved by the administration of calcium gluconate. On the other hand, the etiology of the toxæmias of pregnancy does not lend itself to such simple analysis. These toxæmias are being investigated now in the Biochemical Department of the Animal Diseases Research Association, and so far the evidence does not lend support to the view that a significant calcium deficiency exists. In fact, in pregnancy toxæmia the administration of calcium gluconate or the inflation of the mammæ is of no value whatever.

I am prompted to make these observations after perusing an article by Colonel Bowes in the *Veterinary Record* of August 2nd, 1930. On page 704, it would seem that when he is discussing "Tremblings," he has not discriminated between the two totally different conditions to which I have referred above. If, therefore, such a distinction is not made, the proposed experiments as to the efficacy of calcium gluconate will prove inconclusive.

The ultimate diagnosis of the condition will depend upon an estimation of the calcium content of the blood. This should be done in every case, if results of scientific value are desired. No doubt facilities for such examinations are available near the areas concerned; but if not, we would be prepared to make the necessary analysis here. For a calcium estimation, all that is required is a sample (½ oz.-1 oz.) of blood, which has been collected in a clean dry bottle, allowed to clot, and posted the same day.

Yours faithfully,

Henry Dryerre.
Physiological Biochemist.

Moredun Institute,
Gilmerton,
Edinburgh.
April 7th, 1931.

Malicious Injury of Cattle.

To the Editor of The Veterinary Record.

Sir,—The interesting communication by Professors Craig and Kearney in your issue of March 7th compels me, reluctantly, to offer some comments on that portion which deals with the deaths of cattle in the County of Cork.

I have had an opportunity of examining the carcasses of four of the animals—an opportunity of which one of the authors of the communication did not avail himself. The opinion I formed as to the cause of death is, I regret to say, in conflict with the opinions expressed by Professors Craig and Kearney; but I have no quarrel with the eminent Professors on that score.

Let it be noted, however, that in the records of cattle-maiming published by Mr. Tudor Hughes and by Mr. W. L. Williams, with one exception, *the culprits were discovered.*

In view of the fact that no such culprit was found in the County Cork, I think it is deplorable that the communication, so far as it relates to the happenings in that county, should be published to the world. The report of such a case in the columns of the local Press circulates in a comparatively small area, certainly not outside of Ireland.

Until the alleged "sexual pervert" is discovered, the communication by Professors Craig and Kearney is a terrible indictment against a country which needs all the help that can be offered, instead of blows, however innocently inflicted.

Yours faithfully,

E. McSwiney, M.R.C.V.S.

Sheares Street,
Cork.
March 11th, 1931.

[According to the account published in the *Cork Examiner* for November 10th, 1930, of the trial of this case, Mr. Justice Kenny, in giving judgment, is reported as saying that "he was quite satisfied that the cows were killed maliciously by some person who had not been traced and never may be traced and who had been acting as a moral pervert for some time in the district."—Ed.]

Suggested Veterinary Corps Re-union.

To the Editor of The Veterinary Record.

Sir,—I shall be glad if you will be good enough to grant me space in which to inform our members that it has been arranged to make the Veterans Club, 2, Hand Court, Holborn, W.C.1, the rendezvous where old friends may meet after the F.A. Cup Final, on Saturday, April 25th.

It will be just an opportunity for social re-union; no charge will be made, and it is hoped that old friends who otherwise would never have a chance of seeing each other, may do so on the occasion when they pay their visit to London "for the Cup."

Thanking you, and trusting members will pass the word to all whom they know served in the Veterinary Corps,

I am, Sir,

Faithfully yours,

Reg. F. Wall.

128, Queen's Road,
Bayswater,
London, W.2.
April 7th, 1931.

The Editor acknowledges the receipt of the following:—

Report of the Annual General Meeting of the Southern Counties Division, N.V.M.A., from Mr. G. N. Gould, Junr., Hon. Secretary.

Communications from Dr. H. H. Curson (Pretoria), Captain H. A. Idenden (Trans-Jordania), Major H. Kirk (London), Mr. W. M. Scott (Bridgwater).

"The Animal Year-Book" (issued by the University of London Animal Welfare Society).